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THE ARCHAEOLOGY AND HISTORY OF LAKE RAY ROBERTS. VOLUME 1. CULT--ETC(U)

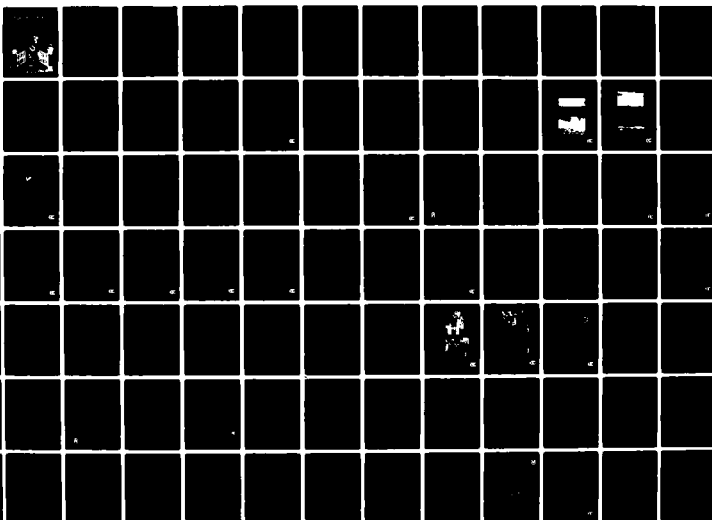
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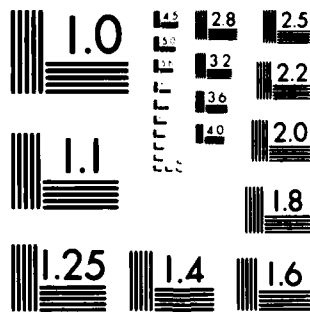
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The Archaeology and History of Lake Ray Roberts

VOLUME I

CULTURAL RESOURCES SURVEY

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Lake Ray Roberts Cultural Resources survey involved a comprehensive inventory of a proposed 45,000 acre lake and associated park lands, located in northern Denton County and adjacent parts of Cooke and Grayson Counties, Texas. A total of 335 cultural resource locations were recorded during the field investigation and oral history gathering phases of the study. Likewise, 102 standing historic structures, 16 cemeteries, and 5 bridges were mapped, photographed, and documented. Archaeological sites included 115 historic, 90 pre-historic, 27 multi-component sites. The period of occupations in tentatively		

dated to begin in the Middle Archaic, with white populations replacing the aboriginal populations in the mid 1800's. Additional publications are planned to cover further stages of investigation.

**ARCHAEOLOGY AND HISTORY OF
LAKE RAY ROBERTS
CULTURAL RESOURCES SURVEY**

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March 17, 1982

ABSTRACT

The Lake Ray Roberts survey involved a comprehensive cultural resources inventory of a proposed 45,500 ac lake and associated park lands located in northern Denton County and adjacent parts of Cooke and Grayson counties, Texas. A total of 355 cultural resources locations were recorded during the field investigation and oral history gathering phases of the study. Likewise, 102 standing structures, 16 cemeteries (two of which were associated with standing structure complexes) and 5 bridges were mapped, photographed, and documented. Archaeological sites included 115 historic sites, 90 prehistoric sites, and 27 multiple-component sites. The historic sites span the period 1840 to the present, and the prehistoric sites include Middle Archaic, Late Archaic, and Early and Late Neo-American. Based on the assembled data, further investigation and documentation is recommended for approximately 52% of the site locations, including 41% of the historic sites and 65% of the prehistoric sites.



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MANAGEMENT SUMMARY

PURPOSE OF INVESTIGATION

In the spring of 1980, Environment Consultants, Inc. (ECI) was selected to conduct cultural resource investigations at Lake Ray Roberts (formerly Aubrey Reservoir) for the Fort Worth District, U. S. Army Corps of Engineers. The study area is located in north-central Texas in parts of Cooke, Denton, and Grayson counties. The contract became effective on July 21, 1980.

The purpose of the survey was to locate cultural resources that are present within the project area and to record all of these resources. Cultural resources include historic and prehistoric archaeological sites as well as historic standing architectural and engineering structures. Information on the age, function, and preservation of these resources was used to develop a set of recommendations about site significance.

This study was conducted in accordance with U.S. Army Corps of Engineer guidelines for implementing federal legislation concerned with environmental protection and historic preservation. These include the National Environmental Policy Act, the National Historic Preservation Act of 1966, as amended, the Procedures for the Protection of Historic and Cultural Properties developed by the Advisory Council on Historic Preservation (36 CFR 800), and others.

CONSTRAINTS ON THE INVESTIGATION

In general, field conditions were favorable; however, numerous small tracts of land within the project area were not available for field survey. These tracts include a total of approximately 3,917 ac which are spread throughout the study area. Surface visibility varied considerably, and this may have hampered the location and description of archaeological sites. The removal and/or deterioration of architectural structures hampered the description and evaluation of historic buildings and archaeological sites.

INVESTIGATIVE RESULTS

A total of 355 cultural resources were recorded or re-recorded during the field survey. These include 90 prehistoric archaeological sites, 142 historic archaeological sites, 27 sites with both prehistoric and historic archaeological components, 102 historic standing structures, 16 recorded cemeteries (two of which are associated with standing structure complexes), and 5 bridges. The ages of these resources range from the Archaic period (4000 B.C. - A.D. 800), through the Neo-American period (A.D. 800 -1600), and began again with historic European settlement about A.D. 1840. The most intense historic occupation was around the turn of the century.

The historic standing structures provide a detailed understanding of changes in folk architecture in this rural region of north-central Texas. The historic archaeological sites emphasize the impact that structure recycling has on site evaluation, and the prehistoric sites document the gradual adaptation of hunting-and-gathering groups over time.

SIGNIFICANCE OF THE RESULTS

It is recommended that 167 of the cultural resources located by the survey have rendered the information they contain through the recording process and should be determined ineligible for further study. Fifty-five of the sites, containing 11 prehistoric and 10 historic components, and including 34 historic standing structures, are recommended to be eligible for inclusion on the National Register of Historic Places. Sixteen cemeteries also are recommended for further research, although they are not eligible for inclusion on the National Register. The remaining resources need further investigation through subsurface testing or oral history to determine if they should be nominated to the National Register.

The significance of these resources is discussed in detail in the Results chapter. Many of the sites have yielded their major importance through being located and recorded. Further study of these fragile resources is not warranted, as they would not be able to contribute a fair share to understanding the research problems relevant to the area. Other sites, however, will provide information on the development of architecture in a rural area of Texas which previously has not been done. The prehistoric archaeological sites will allow for the understanding of aboriginal man's use of the agriculturally marginal area of north-central Texas.

IMPACT POTENTIAL

The survey has recorded many cultural resources which will be impacted by the construction of the lake and associated plant site. However, many of these resources are not recommended for further work. Of the sites that warrant further work, many will be directly impacted by the construction of the lake, and need to undergo further testing, with mitigation where necessary, prior to completion of the lake.

RECOMMENDATIONS

It is recommended that 55 cultural resources are eligible for inclusion on the National Register of Historic places and warrant further work. ECI also recommends that 117 of the cultural resources in the impact area warrant further investigation to determine if they are eligible for nomination to the National Register.

ACKNOWLEDGMENTS

It would be difficult to overestimate the contributions that have been made to the success of our survey by local informants, land-owners, and artifact collectors. Examinations of private collections have provided an invaluable overview of the range of prehistoric occupation of the survey area. In addition, several land-owners took time out to show us several prehistoric site locations and to describe the materials collected from them. We are very grateful for the cooperation and assistance given to us by so many people within the project area.

Thanks go to many regional researchers who have graciously provided their personal knowledge of cultural resources to be used in this report. In particular, we wish to thank Drs. Terry Jordan, Dale Odom, and Bullitt Lowrey of North Texas State University for their assistance and their patience with our questions. Members of the Cooke, Denton, and Grayson County Historical Societies assisted the field teams in many ways. Olin McCormick and Dr. Scott Hays of the Institute of Applied Science at North Texas State University shared their knowledge of north Texas archaeology with the authors.

This report is the result of the work of a variety of people at ECI, over a period of time. Maynard Cliff served as Project Director with Leonard LaVardera acting as Field Director during the bulk of the survey. The field crew included Louis Sardelli, Ron Holan, Kay Curd, and Martin D. Northern as crew chiefs at various times, and crew members included Scott Geister, Arlan Kalina, Kevin McConnell, Michelle Grace, Lesbia Elizondo Northern, Lee Widmer, Margaret Roesner, Sharon Judd, Frank Winchell, Cristi Winchell, Scott Shriner, Gary Rutenberg, and David Jurney. Land-owner and lessee contacts were handled by Sharon Judd, Kay Curd, and Lesbia Elizondo Northern. The historic fieldwork was directed by LeAnne Baird, architectural and senior historian, with the assistance of Carol Gallant, Janis Raley, Keith Ludden, Tom Friedlund, Anita Pitchford, Alec Williams, Peter Kozinski, and D. Gay Shaddox. Ludden served as historical research assistant. Gallant, Raley, Friedlund, and Pitchford conducted and logged oral history interviews in addition to their other tasks.

Administrative details were handled by Hugh Ward, Leslie Orlowski, and Linda Wilmore in Dallas.

The report coordination and completion was managed by Maynard Cliff and S. Alan Skinner. The majority of the chapters have multiple authors. Joe Kaskey, Binion Amerson, and Allen Faust wrote the natural environment. David Shanabrook wrote the geological section; LeAnne Baird, Keith Ludden, Anita Pitchford, and Janis Raley wrote sections on architecture history, while architectural structures were evaluated by Baird and Gay Shaddox. The prehistoric and historic archaeological sections were written by Maynard Cliff and Jeyne Bennett. The methodology was written by Martin Northern and LeAnne Baird. Cliff, Baird, and Skinner prepared the recommendations, while Skinner and Cliff wrote the Management Summary. Editing was done by Amerson, Bennett, Faust, and Skinner. Sue Donahue prepared the line drawings. Various portions of the manuscript initially were typed by Word Processors Linda Holder, Chris Corgill, and Tammy Brown, while Louanne Ward and Marian Marx undertook the bulk of the final manuscript preparation.

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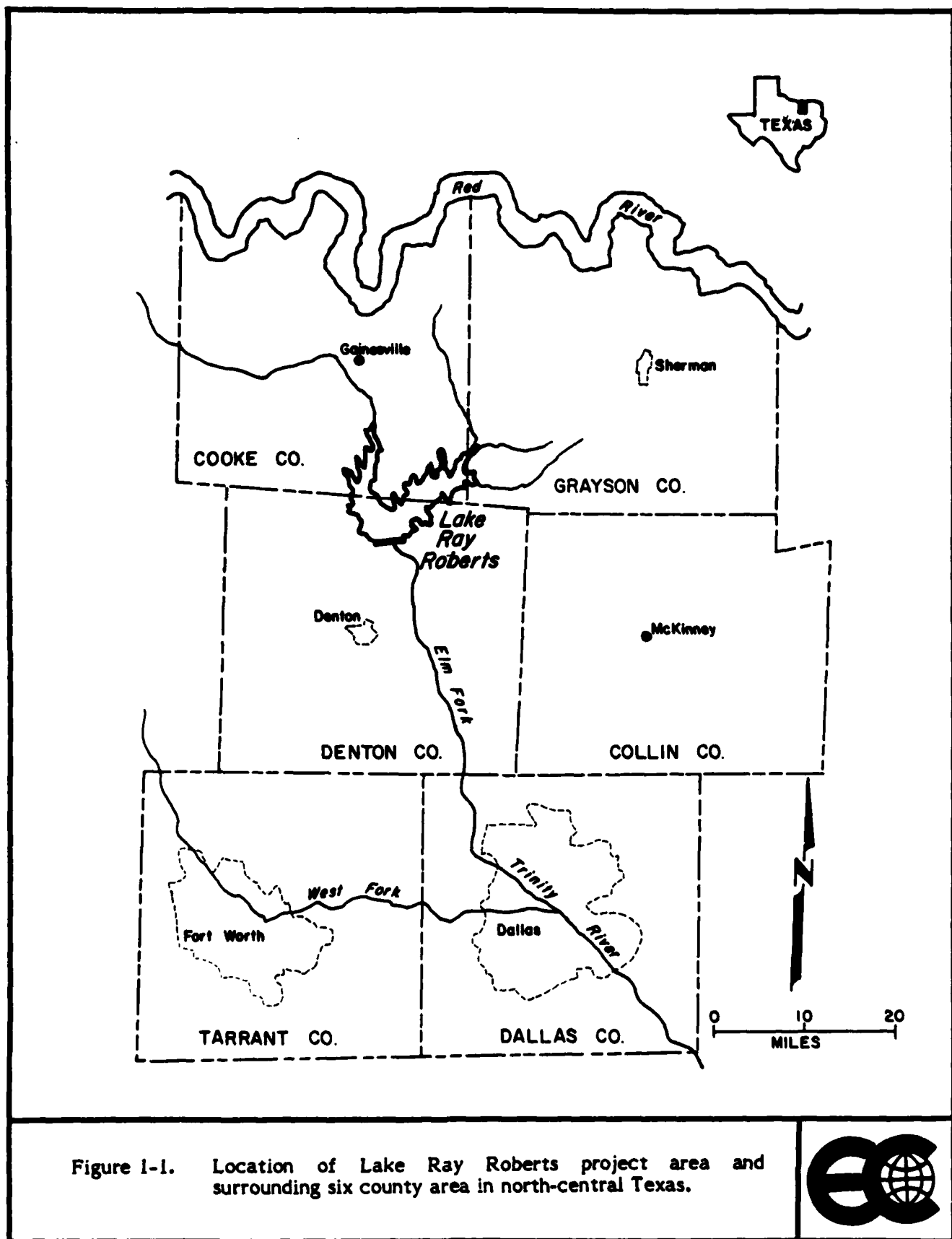
L. INTRODUCTION

Lake Ray Roberts (formerly designated Aubrey Lake) is a proposed reservoir which is intended to serve the area of Dallas and north-central Texas by providing flood control, water supply, and recreation benefits. The reservoir is designed to cover 118.80 km² (29,350 surface ac) at conservation pool level, and total surveyed land was to include more than 184 km² (45,500 ac) in the three counties of Denton, Cooke, and Grayson. The proposed dam site is located approximately 0.4 km (0.25 mi) south of the junction of the Elm Fork of the Trinity River and Isle du Bois Creek (pronounced ZILL-A-BOY), in Denton County (Figure 1-1). Maximum flooding will inundate the floodplains and large portions of the lower terraces of these streams as well as several tributaries, including Spring Creek and Pond Creek on the Elm Fork and Indian Creek, Walnut Branch, Sand Branch, Johnson Branch, Wolf Creek, Buck Creek, and Range Creek on the Isle du Bois. The planned top of the conservation pool will be at 192.8 m MSL (632.5 ft), while the flood control pool elevation will be at 195.2 m MSL (640.5 ft). The U.S. Army Corps of Engineers' acquisition line extends beyond this, to approximately the 198 m MSL (650 ft) contour in most instances. The Lake Ray Roberts project area also includes several public access park areas to be located along the shoreline. Initially, six park areas were planned for and largely surveyed, but this number was later cut to three parks, and those three areas expanded.

Survey work in the Lake Ray Roberts area was carried out in two separate phases by Environment Consultants, Inc. (ECI) of Dallas, Texas under contract with the U.S. Army Corps of Engineers (USCOE), Fort Worth District. The first phase of this work involved the survey of the areas in Denton County to be impacted by construction of the dam. This area included the construction site for the dam and four borrow pit areas located north of the dam site. This area covered approximately 30 km² (7,435 ac) and was confined entirely to Denton County. Approximately 23 km² (5,663 ac) of this area was surveyed by ECI during a 7-week period from August 26 to October 15, 1980. Survey of the remaining portion of this area (7 km² or 1,772 ac) was delayed until 1981 by the refusal of the various land-owners and lessees involved to allow archaeological field crews on the land.

The second phase of the Lake Ray Roberts survey involved the remaining 154 km² (38,065 ac) of lake land, outside of the primary impact zone of dam construction. The majority of this area (116 km² or 28,599 ac) was surveyed during a 12-week period from February 9 to May 1, 1981, under a contract modification with the Corps of Engineers. Survey of approximately 16 km² (3,917 ac) of this land has been delayed indefinitely by the refusal of the land-owners and/or lessees to allow access to their land or by the inability to locate the land-owners (Figure 1-2). Completion of the survey of the remaining 22 km² (5,549 ac) was delayed by unusually inclement weather and by temporary lack of access to land planted in winter wheat. This portion of the lake area was partially surveyed during July 1981 and completed during the fall and winter of 1981, from October to December.

The survey phase of the research at Lake Ray Roberts was designed and carried out with several distinct goals in mind. The primary overall goal was the location and recording of as many of the cultural resources of the Lake Ray Roberts area as possible. The field of interest for the survey at Lake Ray Roberts was widened to include, in addition to prehistoric and historic archaeological sites, standing structure sites of both historical and architectural significance. Many buildings (both houses and outbuildings) still standing in the Lake Ray Roberts area were built during the nineteenth and early twentieth centuries, or incorporate an earlier structure. The survey attempted to recognize and record as many of these as possible.



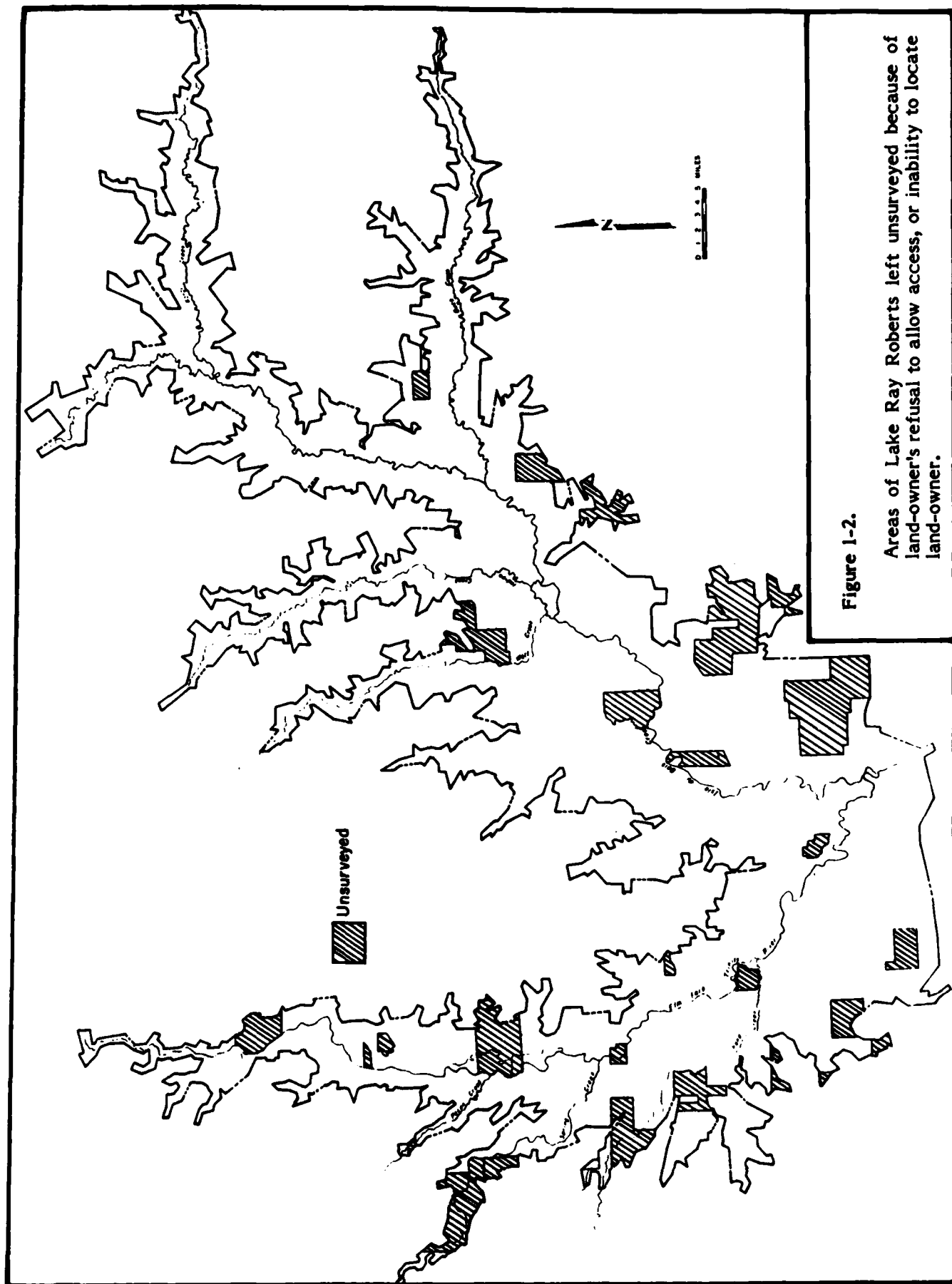


Figure 1-2.

Areas of Lake Ray Roberts left unsurveyed because of land-owner's refusal to allow access, or inability to locate land-owner.

A secondary goal was to thoroughly record each site, while disturbing it as little as possible. The specific data recorded for each site included both environmental and cultural information, plus extensive photographs and floor plan sketches for the standing structures.

Prior to the commencement of fieldwork at Lake Ray Roberts, an extensive amount of background research on area prehistory was undertaken, secondary historical works were consulted, and a research design was written to guide subsequent fieldwork in the area. A number of research goals were set at that time, the most basic of which was a cultural-historical synthesis of prehistoric and historic human occupation in the Lake Ray Roberts area. Prior to the Lake Ray Roberts project, this portion of north-central Texas had received only a minimum amount of research attention. A reconnaissance of the Lake Aubrey area was made in the last decade (Bousman and Verrett 1973), and several sites within the lake area have been collected or partially excavated over the years (Bousman and Verrett 1973:4-5). Unfortunately, none of this work has been published (with the exception of the initial reconnaissance conducted for the Corps of Engineers), but the results do serve to place the Lake Ray Roberts area in perspective as apparently having the regional types of prehistoric Native American manifestations (see Chapter IV for a more detailed discussion of the archaeology and history of the Lake Ray Roberts area). No synthesis of the social history (either economic, agricultural, traditional, or folkloric) of northern or northeast Denton County had previously been compiled. Numerous sources that could be used to assemble such a synthesis are available, however (see Historical Literature Review Section). In light of this situation, the most immediate specific research goal of the Lake Ray Roberts survey was the construction of a more specific areal chronology, incorporating the historic as well as prehistoric development of the area.

A number of less general research concerns were generated prior to and during fieldwork, in the form of a series of research hypotheses (see Chapter V). An effort was made to generate research hypotheses upon which survey data could be easily brought to bear. This goal was achieved with variable degrees of success, as can be seen in Chapter VIII. Basically, the research hypotheses revolved around problems of: (1) cultural-historical synthesis, as noted above; (2) identifying synchronic settlement systems and diachronic settlement pattern change; (3) reconstructing a demographic curve for both the prehistoric and historic periods; (4) identifying periods of regional exchange and interaction during the prehistoric period and clarifying the type of exchange involved; (5) clarifying the nature of the prehistoric social systems within the Lake Ray Roberts area; (6) recognizing regularities of early white settlement in the area and identifying the region of origin of the first settlers; (7) identifying the pattern of historic landscape evolution within the Lake Ray Roberts area; (8) using available historic information and data about relic features in the present landscape to attempt to reconstruct past landscapes; and (9) identifying changing patterns of historic land utilization.

The final, and possibly the most important, goal of the Lake Ray Roberts survey was to develop an overall model of the cultural history of the area, stressing specific problem areas requiring further research, and recommending specific sites for further research which contain (or are believed to contain) data bases suitable for answering these problems.

The following report on the Lake Ray Roberts survey has been organized into individually, or group-authored chapters, reporting on various aspects of the research conducted at Lake Ray Roberts. Following this introduction, Chapter II deals with the local environment and potential of the Lake Ray Roberts area for various types of

subsistence economies, including hunting-and-gathering, extensive agriculture, and intensive agriculture. Chapter III consists of an examination of the bedrock geology of the Lake Ray Roberts area, plus a preliminary environmental reconstruction of the last 20,000 years, based upon the geological evidence. Chapter IV contains an archaeological and historical background for the Lake Ray Roberts area, based upon previously published literature, while Chapter V presents a modified and updated version of the research design developed prior to the fieldwork in the Lake Ray Roberts area. Chapter VI presents a brief summary of both the archaeological and historical field methodologies used for the survey, and Chapter VII presents the survey results in terms of site descriptions and artifact descriptions (where relevant). Chapter VII also contains the evaluation of the survey results, including a synthesis of the project area history based upon the survey results, a reconstruction of demographic and settlement pattern changes within the area, and an analysis of the historical landscape. The final section of this report, Chapter VIII, consists of an evaluation of the project's impacts upon the various cultural resources within the lake area, plus recommendations for further cultural resource investigations within the Lake Ray Roberts area.

II. LOCAL ENVIRONMENT

Physiography

The major portion of the proposed Lake Ray Roberts impoundment will be situated along the Elm Fork of the Trinity River and its tributaries and along Isle du Bois Creek and its tributaries, in Denton County. The impoundment also will extend into the southern part of Cooke County along the Elm Fork to the west, within the valleys of Isle du Bois, Indian, Buck, and Wolf creeks to the east; and into the southwestern portion of Grayson County along the valleys of Buck and Range creeks. These counties are located in north-central Texas, which lies in the Gulf Coastal Plains physiographic province. Most of the study area (Denton and Cooke counties) falls into the Grand Prairie subdivision which tends to be a gently rolling prairie with occasional ridges and knolls (Figure 2-1). The remainder belongs to the Eastern Cross Timbers subdivision, whose topography is quite rugged and hilly by comparison (USCOE 1973) (Figure 2-2).

Geology and Hydrology

Rock formations in the study area consist of various units of the Gulf and Comanche Series of the Cretaceous System. These units outcrop in a series of resistant, well-cemented beds of the Woodbine Sandstone in the Eastern Cross Timbers as opposed to the easily weathered limestones and clays of the Washita Group in the Grand Prairie. The Cretaceous bedrock in this area is important because it has acted as a source of sediment for the Quaternary units that overlie it and the influence it has exerted over the shape and size of the river valley. This is at least a partial explanation of why the Trinity River valley tends to be asymmetrical with a steep eastern side (Figure 2-3) and a gently sloping western side (Figure 2-4). The distribution of fluvial terrace deposits is controlled by this asymmetry of the valley and the differing rates of erosion.

The Elm Fork, a major tributary stream of the Trinity River watershed, drains a total area of 6,674.4 km², flows in a generally southeasterly to southerly direction, and lies within parts of the study area (Cooke, Denton, and Grayson counties). One of its principal tributaries is Isle du Bois Creek which has a drainage area of 688.9 km² and flows southwesterly. Ground water resources can be found in a few wells located in the valleys of the Elm Fork and Isle du Bois Creeks. Ground water is obtained from aquifers of the Trinity Sands Group, the Woodbine Sands Formation, and from the alluvial floodplain and terrace deposits that border this watershed (USCOE 1973).

Soils

The soils within the study area fall into three general groups: Grand Prairie, Eastern Cross Timbers, and Blackland Prairie. In Denton County, a major portion of the soils along the Elm Fork and its tributaries consist of a moderately alkaline, very dark, grayish-brown, Frio silty clay on the floodplains to a slightly acid, brown Navo clay loam along the drainages and low hills. Along Isle du Bois Creek, the floodplain soils are a mildly alkaline, dark gray Kaufman clay with a slight-to-medium acid, brown Callisburg, fine sandy loam on the foot slopes and valley fills of the uplands (Ford and Pauls 1980).

The soil profile in Cooke County along the bottom and uplands of the Elm Fork consists of moderately alkaline, dark gray Tinn clays. In contrast, the bottomland soil along Isle du Bois Creek is a medium acid, dark, grayish-brown Gladewater clay; while the upland soils are either a medium acid, yellowish-brown, Aubrey fine sandy loam or a neutral, reddish-gray, Konsil fine sandy loam. Wolf Creek, a branch of Isle du Bois Creek, is

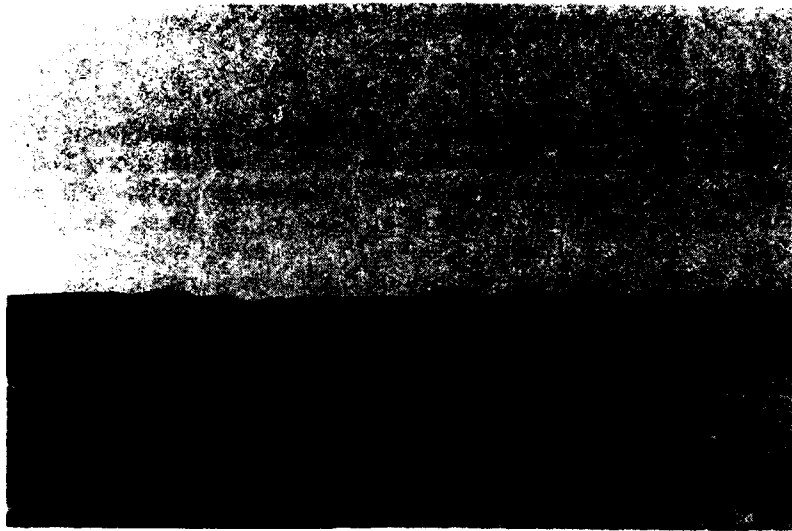


Figure 2-1. Gently rolling grassland which is characteristic of the Grand Prairie margin west of the project area.



Figure 2-2. Wooded hilly topography of the cross-timbers area in the central part of the project area.





Figure 2-3. Relatively steep sandstone hills along the eastern side of the project area.

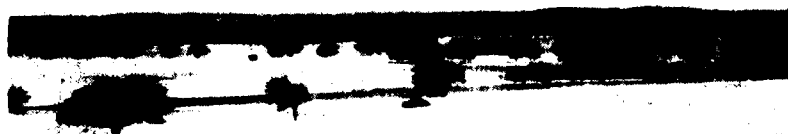


Figure 2-4. View of the western side of the project area showing gradual slope into the Elm Fork basin.



interdispersed with a moderately alkaline, dark, grayish-brown Gowen clay loam or a medium acid, brown Pulexas fine sandy loam soil. In the upland areas, soils consist of the Aubrey or the Konsil fine sandy loam. The bottom and upland soils in Indian Creek, another branch of Isle du Bois Creek, are the Gowen clay loam and the Aubrey fine sandy loam or the medium acid, yellowish-brown, Callisburg fine sandy loam (Putnam et al. 1979).

In Grayson County, the soil profiles of the two branches of Isle du Bois Creek and Buck and Range creeks are as follows: Buck Creek--a neutral, light yellowish-brown, Bunyan fine sandy loam and dark, grayish-brown, Whitesboro loam bottomland with a strongly acid, brown, Aubrey fine sandy loam upland; Range Creek--a slightly acid dark, grayish-brown, Zilaboy clay in the floodplain with Aubrey fine sandy loam or a medium acid, dark grayish-brown, Normangee clay loam on the broad uplands. (Cochran et al. 1980).

The soils in Denton County along the floodplains of the Elm Fork and Isle du Bois Creeks have a low potential for crop production because of the hazard of flooding during the growing season, but they have a medium to high potential for pasture (i.e., bermuda grass) and rangeland, as do the upland soils. In Cooke County, the bottomland soils exhibit the same characteristics prevalent in Denton County, while the upland soil varies throughout the watershed from medium to high potential for range (i.e., tall grasses), crops (peanut, grain sorghum), and pasture (small grain). The small section in Grayson County in the narrow floodplains of Range and Buck creeks displays a soil potential that is medium to high for range and pasture but low to unsuitable for cultivated crops (Cochran et al. 1980; Ford and Pauls 1980; and Putnam et al. 1979).

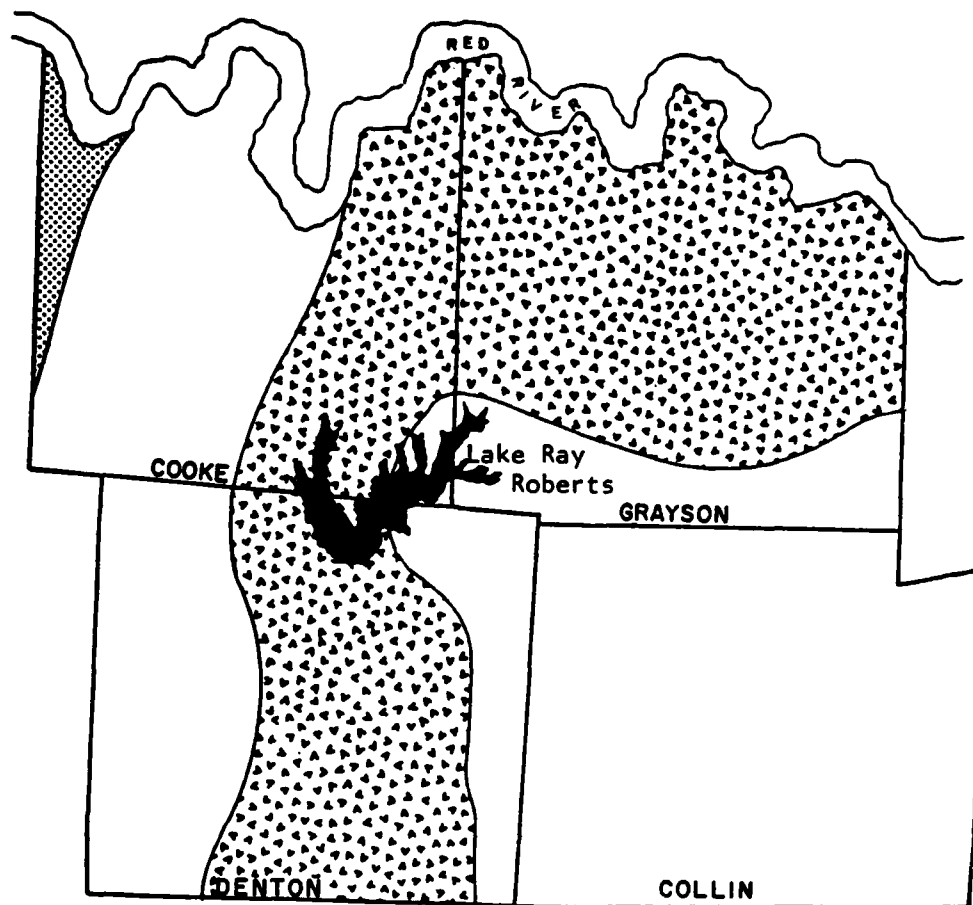
Climate

The Elm Fork watershed is located in a region where seasons of moderate to mild winters (average, 7.2°C) and comparatively long, hot summers (average, 28.0°C) prevail with an annual average temperature of approximately 17.7°C. Although the winters are mild, they are characterized by sharp drops in temperature and strong, gusty, northern winds accompanying brief cold fronts. In the spring, the following weather changes can occur: increased winds and thunderstorms, and alternate warm and cool spells in rapid succession. Precipitation averages 88.35 cm (rain) and 6.17 cm (snow) annually, and is evenly distributed throughout the season with May being the wettest month and January and midsummer, the driest. Tropical maritime air masses from the Gulf of Mexico prevail during the spring, summer, and fall, and modified polar air masses in the winter (Cochran et al. 1980; Ford and Pauls 1980; and Putnam et al. 1979).

Vegetation and Wildlife

The three-county study area in which Lake Ray Roberts will be located contains three major vegetation regions: Blackland Prairie, Oak-Hickory Forest, and Oak Forest and Prairie (Tharp 1926, 1944; Chambers 1952; Kuchler 1965; USCOE 1973; and Arbingast et al. 1976). As shown in Figure 2-5, Blackland Prairie covers the southern one-fourth of Grayson County, the southeastern tip of Cooke County, and much of eastern Denton County. Blackland Prairie also covers the western half of Cooke County (except for the far northwestern tip) and the western third of Denton County. Between these two areas of Blackland Prairie lies a region of Oak-Hickory Forest, which also covers the northern three-fourths of Grayson County. The only Oak Forest and Prairie area is in the northwestern tip of Cooke County.

The original vegetation of the Blackland Prairie vegetation region can best be described as being bunch and short grasses. The most common and widespread species were



VEGETATION REGIONS




- 
Oak Forest and Prairie
 Post Oak, Blackjack Oak; some prairies.
- 
Blackland Prairie
 Bunch and Short Grasses.
- 
Oak - Hickory Forest
 Hickory, Post Oak, Blackjack Oak; some prairies.

Figure 2-5. Vegetation regions of the Lake Ray Roberts area (after USCOE 1973, Plate 11-5).



Andropogon saccharoides var. laguroides, A. scoparius, A. furcatus, Stipa leucotricha, Agropyron smithii, and Koeleria cristata. The original vegetation of the Oak-Hickory Forest vegetation region was dominated by post oak (Quercus stellata), blackjack oak (Quercus marilandica), Texas hickory (Carya texana), and winged elm (Ulmus alata). Chief understory plants consist of little bluestem (Schizachyrium scoparium), and weedy assemblages dominated by herbs: purple three-awn (Aristida purpurea), ragweed (Ambrosia artemesifolia), and elderberry (Sambucus spp.) (USCOE 1973). The dominant species of the original Oak Forest and Prairie vegetation region included post oak, blackjack oak, and various grasses such as Agropyron smithii, Andropogon saccharoides var. laguroides, A. scoparius, Stipa leucotricha, and Triodia pilosa. These vegetation regions generally follow the distribution of the soils in the area (Figure 2-6), with Blackland Prairie vegetation occurring on Blackland Prairie soils (southeast portion of the study area) and on Grand Prairie soils (western portion of the study area), with Oak-Hickory Forest occurring on Eastern Cross Timbers soils, and with Oak Forest and Prairie vegetation occurring on Western Cross Timbers soils. These soils have been described earlier in this report.

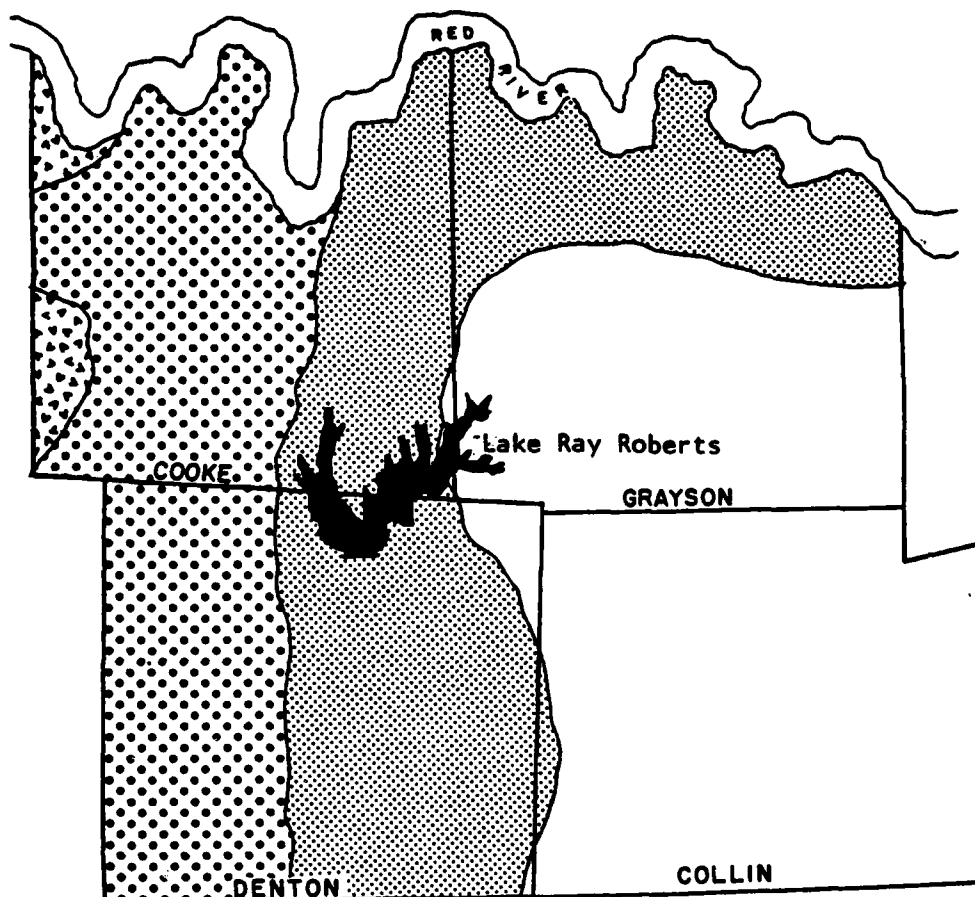
Much of the drainage of Isle du Bois Creek, as well as the Indian, Buck, and Wolf Creek watersheds (basically, the eastern half of the proposed reservoir) lie within the Blackland Prairie region. The remaining western half of the reservoir (Elm Fork of the Trinity and its confluence with Isle du Bois Creek) would lie within the Oak-Hickory Forest region.

The vegetation regions described above undoubtedly have been established for centuries, existing fairly undisturbed by man and controlled generally by the soils more than by the climatic regime. Obviously, bison and other grazing animals also had some early influence on vegetation, as did the cattle drives of the 1800s which helped the spread of many plant species. Presently, because of disturbance by cattle grazing and agriculture practices involving tilling and clearing of forest lands, little of the original vegetation is in a natural state.

The megafauna of the Lake Ray Roberts area presently is typical of the Prairie Parkland (Bailey 1976). Main game species include gray fox (Urocyon cinereoargenteus), fox squirrel (Sciurus niger), white-tailed deer (Odocoileus virginianus), bob-white (Colinus virginianus), and mourning dove (Zenaidura macroura), along with 26 species of mammals (i.e., rabbits, opossum (Didelphis virginiana), armadillo (Dasypus novemcinctus), skunks (Mephitis sp.), and other furbearers) plus some 36 resident bird species (i.e., hawks, owls, etc.) and 47 migratory species (i.e., herons, swallows, sparrows, etc.) (USCOE 1973). Coyotes (Canis latrans), pocket gophers (Geomys bursarius), and a variety of reptiles, amphibians, and insects also are commonly found in the study area.

Historically, Indians in the area hunted a wide variety of terrestrial fauna, some of which are no longer common. These include deer, bear, wolf, bison, rabbit, tortoise, snakes, beaver, fox, turkey, duck, squirrel, and others. More information on the fauna utilized by the occupants of the Lake Ray Roberts area is given in Volume II of this study report.

Aquatic life presently found in the Elm Fork of the Trinity River and in the Isle du Bois Creek and its tributaries consists of fish communities dominated by shiners and minnows (Cyprinidae), although some commercial fish such as carp (Cyprinus carpio), suckers, long-nose gar (Lepisosteus osseus), and black bullhead (Ictalurus melas) and sport fish such as channel and flathead catfish, sand bass (Morone chrysops), several species of sunfish (Lepomis spp.), largemouth and spotted bass, and white crappie







-  **Blackland Prairie**
 Uplands—Dark-colored calcareous clays. Some grayish-brown, acid sandy loams and clay loams along eastern edge of the major prairie and interspersed in the minor prairies.
 Bottomlands—Dark-grey to reddish-brown calcareous clay loam and clays
-  **East Cross Timbers**
 Light-colored, acid loamy sands and sandy loams.
-  **Grand Prairie**
 Uplands—Dark-colored, deep-to-shallow and stony calcareous clays over limestone.
 Bottomlands—Reddish-brown to dark-grey clay loams and clays.
-  **West Cross Timbers**
 Light-colored, slightly acid sandy loams, loamy sands and sands.

Figure 2-6. Distribution of generalized soil types in the Lake Ray Roberts area (after USCOE 1973, Plate 11-7).



(*Pomoxis annularis*) also are found. Various groups of herpetofauna (33 species of reptiles including turtles, skinks, lizards, and snakes, and 11 species of amphibians, toads and frogs) and ubiquitous wetland species (i.e., muskrat, nutria, and raccoon) also occur throughout the area. Many common waterfowl species are found seasonally: gadwall (*Anas strepera*), pintail (*Anas acuta tztzihoa*), green-winged (*Anas carolinensis*) and blue-winged (*Anas discors*) teals, baldpate (*Mareca americana*), and redhead duck (*Agthya americana*) (USCOE 1973). Several mollusc species, which could serve early inhabitants as food resources, are found in the major, permanently flowing streams where suitable habitats are present.

Economic Potential of the Area

This subsection briefly explains how the environmental characteristics of the topography, soils, climate, hydrology, vegetation and wildlife of the Lake Ray Roberts area may have influenced the prehistoric and historic inhabitants' subsistence patterns. More detailed discussions concerning subsistence and settlement patterns of the area are found elsewhere in both volumes of this report. The following discussion will provide a scenario for three periods of occupation: (1) the period of hunting/gathering by the prehistoric Indians, (2) the period of transition when some hunting/gathering took place but was accompanied by "slash-and-burn" agriculture over extensive areas, and (3) the period of intensive commercial agricultural production during early historic and recent times.

Although the climate of the study area probably has fluctuated between wetter and drier times over the past 10,000 years, this environmental feature probably had the most influence on subsistence at the short-term level; that is, during wetter years there would be more vegetative production and greater availability of fish, waterfowl, and aquatic life than during dry spells. It is likely that the carrying capacity of the land for prehistoric human occupants who subsisted primarily by hunting and gathering was controlled somewhat by periodic climatic changes in the area. If food source production declined after a period of years of good productivity, it meant that hunters/gatherers had to wander farther for sufficient food supplies, survive with less food, or perish.

The terrain of the region is more eroded, with steeper stream valleys and deeper streams in the Eastern Cross Timbers region of the study area (the eastern part of the proposed lake area), but this physiographical difference probably played no role in acting as any kind of physical barrier to the hunter/gatherer groups of prehistory. Instead, the difference in soils and the resultant predominant vegetation types, between the Grand Prairie area to the west and the Eastern Cross Timbers area, made the region one which contained a large portion of ecotonal area of the two biotic zones. In itself, this juncture of two biotic zones provided a more diverse faunal and floral subsistence base than either zone would have done by itself. The differences existing between upland and lowland areas within each of these zones and in the ecotonal areas also probably played a part in providing a great diversity of exploitable species to the early occupants. As wetter or drier years allowed, the hunter/gatherer in the region had a wide variety of available food sources to exploit without having to travel too extensively. The places of most food abundance were the bottomlands of the streams where the following foods could be gathered: berries and fruits, nuts, grasses and seeds, roots, waterfowl (the lake area is on the eastern edge of the Central Flyway for waterfowl), large mammals, reptiles, amphibians, molluscs, fish, and, of course, water.

The upland areas could provide additional foods in the form of other types of vegetation, mammals and upland game birds, and perhaps different insects and reptiles.

Depending on the specific desires of the inhabitants, either the upland or bottomland species could be sought within fairly easy access. This type of hunting/gathering by the prehistoric Indian occupants undoubtedly continued through the time when Spanish and other explorers visited the area and even as initial white pioneer settlement began in the 1800s.

The earliest pioneers entered and settled permanently in the Lake Ray Roberts area during the period from about 1820-1860. During that period, it is highly likely that the aboriginal occupants maintained a hunting/gathering economy. However, the incoming Euro-American settlers lived a more sedentary existence, bringing with them farming practices used elsewhere. They also exploited the wild game, fish, and waterfowl populations, probably more effectively than did some of the Indian groups. Although not relying on natural vegetational food sources as much as the Indians, the white settlers collected wild nuts, berries, roots, and fruit to augment any crops they grew.

It is fairly certain that the earliest white settlers did not exist solely by farming lands exclusive to their ownership. In many instances, they probably would have used arable lands near their homes. These earliest "farmers" in the area for the most part utilized "slash-and-burn" agriculture, probably not an accurate term because burning of native vegetation was not necessarily involved. What this means is that they farmed crops extensively rather than intensively, and that they did so more for subsistence of their family and neighbors than in the sense of growing crops for commerce. The pattern of crop growth involved using small plots of land for one or two years and then moving to another area, clearing that area, and using it for one or two years while leaving the first area as fallow fields. This process was repeated over many areas because the soil simply was not nutrient-rich enough to support continuous crop growth year after year. Furthermore, little was known about crop rotation at that time, which, if applied, may have allowed longer periods of cropping the same plots of land.

As noted earlier, the western portion (approximately half) of the Lake Ray Roberts area contains more gently rolling hills with fewer steep-sided stream valleys than the eastern half on Blackland Prairie. However, the western half probably contained more trees in the mid-1800s (because of the soil types present). On the one hand, more gentle slopes made farming easier and there was less erosion to the west, but it also involved more clearing of trees. Trees were of more benefit to the earliest settlers than were the shrubs and grasses and more rugged terrain of the eastern half of the area, so settlement of the western portion of the area was most advantageous and probably was a preferable area to early white settlers. This also is likely because larger permanent streams are in the western area.

As continuing white settlement increased the population density, farming became more restricted to owners' properties, technological farming advances were made, the large populations of wildlife decreased and, in general, most of the hunting/gathering and "slash-and-burn" agriculture gave way to intensive agriculture. Cattle grazing became dominant after the 1880s along with raising cash crops such as peanuts, cotton, wheat and oats. Although soil type played some role in determining where good crops could be grown prior to the relatively recent introduction of fertilizing, crop rotation, and contour planting, the earliest cash crop farmers were quite dependent on appropriate rainfall and dry harvest times, on level ground free of rocks and heavy erosion, and on using the most fertile soils in alluvial stream valleys. With the advent of more advanced farming practices in the twentieth century, some marginal lands could be successfully farmed even on rolling upland soils, if the weather cooperated. Still, the steeper hilly areas and those old fields that became eroded and invaded by undesirable brush and weeds were good for little else than allowing cattle to graze, because it was

not economically feasible to properly manage such an area for crop growth; this situation remains today.

Considering the general vegetational and climatic trends and trends of human subsistence methods which have been characteristic of the Lake Ray Roberts area, it is probable that the aboriginal carrying capacity of the lake area as a whole was about equal for the western half (Oak-Hickory Forest) and for the eastern half (Blackland Prairie), with perhaps only a slightly greater capacity to the west. This overall capacity may have decreased somewhat during the transitional period when earliest white settlement began and the bison and other wildlife began to decline. Later, as established farming began with more modern land use practices, the carrying capacity has again increased. However, based on water availability, terrain, and soil productivity, the entire area could be classified as one with inherently low to moderate carrying capacity regardless of subsistence means and with no outside influence.

III. AREAL GEOLOGY

Physiographic Setting

The survey area discussed in this report lies in the Gulf Coastal Plain physiographic province. Most of this region falls into the Grand Prairie subdivision of this province, while the remainder belongs to the Eastern Cross Timbers subdivision. The Grand Prairie tends to be a gently rolling prairie with occasional ridges and knolls supported by the more resistant limestone layers of the Washita Group of the Comanchean Series of Cretaceous age. The Eastern Cross Timbers, on the other hand, tends to be quite rugged and hilly by comparison. This is because the Eastern Cross Timbers is underlain by the resistant, well-cemented beds of the Woodbine Sandstone as opposed to the easily weathered limes and clays of the Washita Group.

General Geology

As mentioned above, the bedrock in the study area consists of various units of the Gulf and Comanche Series of the Cretaceous System (Table 3-1). These units outcrop in a series of roughly north-south trending bands with the Woodbine Sandstone on the east and the Fort Worth Limestone on the west. These Cretaceous formations were deposited in the quiet, shallow waters of the Tyler (or East Texas) Basin in a range of littoral and near-shore environments. (For a fuller discussion of the Cretaceous units of this area see the Southwest Association of Student Geological Societies' Fall Field Trip Guide Book, Comanchean Sedimentation of Central Texas, Stephen F. Austin State University, 1979 and its extensive bibliography.) With the exception of the Woodbine Sandstone, the Quarry Limestone Member of the Weno Shale, and the Main Street Limestone, all of the units tend to be poorly consolidated and erode rapidly by mechanical and chemical processes. Because of this, the outcrop in this area is sparse and very poor in quality. However, judging by the outcrop pattern and measurements made by the U.S. Army Corps of Engineers (USCOE 1973: II-11), it would seem that these units strike roughly N15-20° E and dip 1/2 to 3/4° southeast.

Table 3-1.
Units of the Cretaceous system present in the study area

<u>Series</u>	<u>Group</u>	<u>Formation</u>
Gulf		Woodbine Sandstone
Comanche	Washita	Grayson Marl Main Street Limestone Pawpaw Sandstone Weno Shale Denton Shale Fort Worth Limestone

The Cretaceous bedrock in this area is important for two reasons. First, it has acted as a source of sediment for the Quaternary units that overlie it. This is especially true of the deposits of the T1 terrace which contains a good deal of material derived from the Weno Shale and the Main Street Limestone. This will be discussed more fully in the following section.

The second, and principal, importance of the Cretaceous bedrock is the influence it has exerted over the shape and size of the river valley. As noted above, some of the Cretaceous units, particularly the Woodbine and the Main Street, are somewhat more resistant to erosion than the rest. In the areas where these formations subcrop (or outcrop), the width of the valley is somewhat restricted and the valley sides tend to be steeper. This is at least a partial explanation of why the Trinity River valley tends to be asymmetrical with a steep eastern side supported by the Woodbine and Main Street formations, and a gently sloping western side underlain by the Pawpaw, Weno, and Denton formations. It is likely that the river valley has had this geometry since at least the beginning of the Pleistocene, and quite possibly earlier.

This asymmetry of the valley and the differing rates of erosion are the principal controls of Pleistocene terrace distribution. Because of the asymmetry of the valley, the width of the terrace deposits between the axis of the valley and its eastern side would be less than between the valley axis and the western side. Thus, an equal amount of erosion by a stream meandering on either side of the valley axis would leave more preserved terrace on the west side than on the east (Figure 3-1).

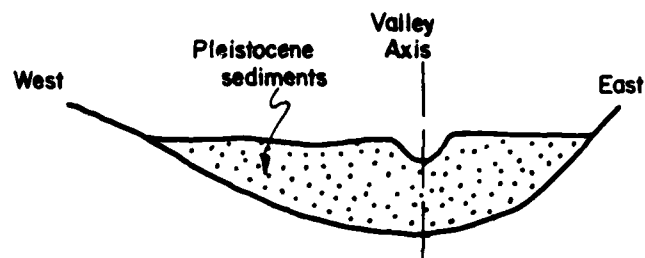
In addition to the Cretaceous formations, the study area contains several Quaternary deposits. The youngest of these are the Holocene flood plain deposits of varying composition and thickness. The older of these units are Pleistocene in age and form a series of terraces above the present flood plain. These deposits will be discussed in detail below.

Pleistocene Terraces

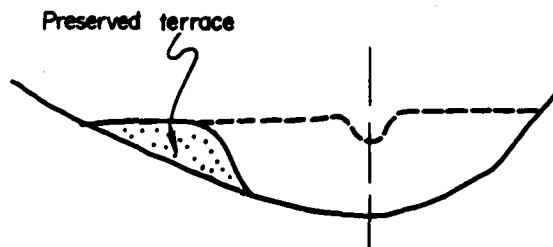
In the study area, there are two and possibly three Quaternary terraces. The youngest terrace, T0, is Holocene in age, approximately 9 m thick, and occurs at elevations between 167 and 177 m above sea level (Figure 3-2). Above the T0 terrace, which is the present flood plain, is the T1 terrace. This terrace is Pleistocene in age and occurs between elevations of 177 to 191 m. There is some evidence which suggests that a third or T2 terrace is present in the study area at elevations above 191 m (625 ft). Most of the preserved deposits of the T1 and T2 terraces occur in the west half and northeastern corner of the area along the western sides of the stream valleys. Erosion, slope slump, vegetation, and recent agricultural activities all have contributed to obscuring and decreasing the original extent of these deposits (Figure 3-3).

It is difficult to assign ages to the terrace deposits based on stratigraphic and topographic considerations alone because of the local source of much of the terrace material, the lack of any cross-cutting relationships and index fossils, and the destructive effects of the processes mentioned above. Because of this, it will be necessary to assign ages based on reconstructions of the climate and sea level for the latter part of the Quaternary.

Terraces are formed in a given area when a river is depositing much more material than it is eroding. That is to say, terrace deposits are laid down when a river is actively filling the valley it drains with sediment. Terrace deposits are destroyed or not deposited when a river is actively deepening or down-cutting the valley it drains. The three principal controls of this balance of erosion and deposition are the amount of material the river must transport (the sediment load), how far the bed of the river channel drops in a given horizontal distance (the river's grade), and the amount of water the river contains. Since there is no evidence that would suggest that the amount of material the paleo-Trinity River system had to carry varied appreciably, then the primary controls of deposition and erosion would be the river's grade and the volume of



A. Before erosion.



B. After erosion.

Figure 3-1. Effect of valley geometry on present terrace distribution.



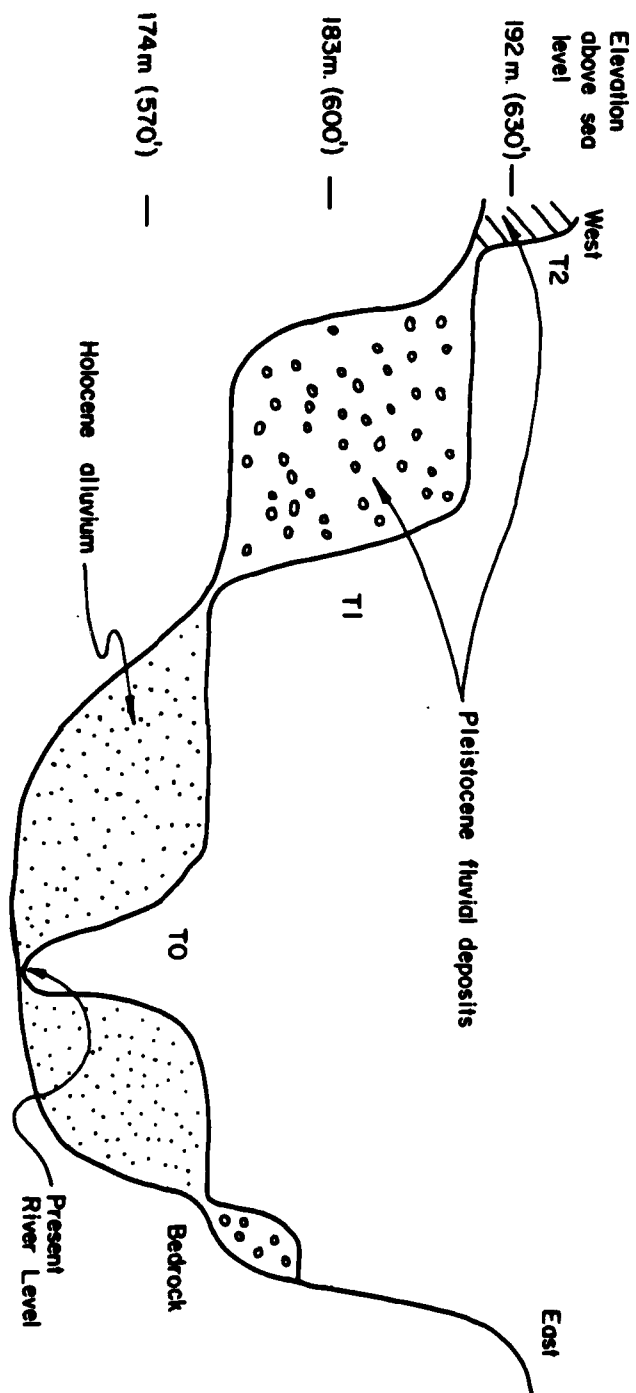


Figure 3-2. Idealized profile of terraces in the study area.



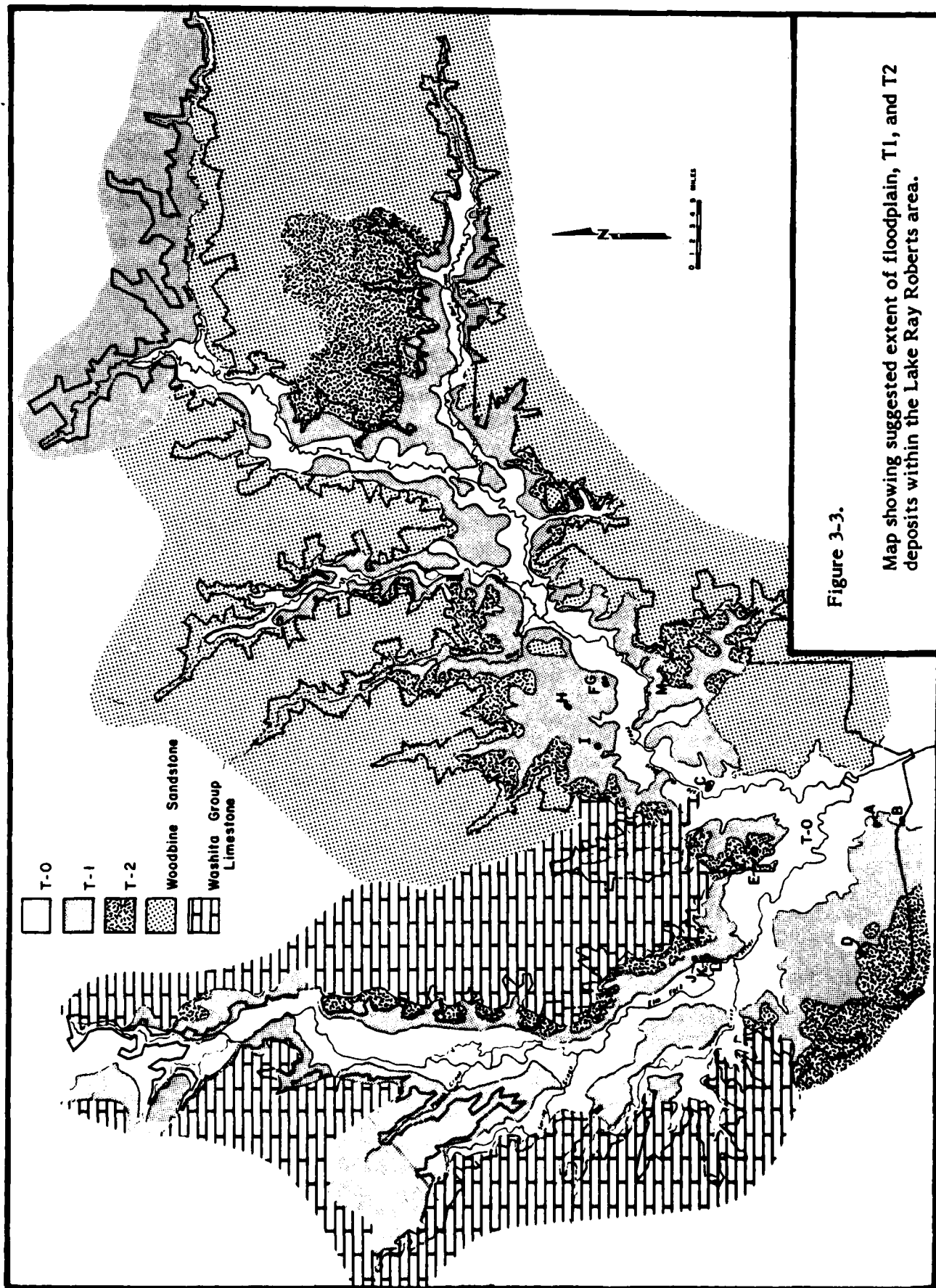


Figure 3-3.

Map showing suggested extent of floodplain, T1, and T2 deposits within the Lake Ray Roberts area.

water it carried. During the Quaternary, these two factors varied considerably as a result of the advance and retreat of the glaciers, often in such a manner as to offset each other. For example, during a glacial advance, sea level would drop causing an increase in the paleo-Trinity's grade and promoting down-cutting. The climate would also change, becoming cooler and more humid, thus providing the river system with more water and increasing its capacity for erosion. However, the climatic change also would promote denser vegetation which would decrease run-off and inhibit erosion to some extent. Hence, although a glacial advance would eventually lead to terrace destruction, it would be a comparatively slow process and it might take some time before the full effects of the advance were felt on the upper reaches of the paleo-Trinity system.

Based on the principles outlined above and the paleo-sea level and climatic information provided by Flint (1971: 326-28), Shafer (1977), and Bryant and Shafer (1977), the following dates are proposed for the terraces in the study area:

- T0: present to 1000 years B.C.
- T1: 4500 to 10,000 years B.C.
- T2: 18,000 (?) to 43,000 (?) years B.C.

The dates of the T2 terrace are the hardest to set forth with any degree of reliability. The terrace is certainly older than the Late Wisconsin ice advance and the radical drop in sea level it caused, but it could have been formed in response to any of the interstadials of the Middle Wisconsin Stage (25,000 to 55,000 years B.C.). It is impossible at present to define the dates of this terrace any more precisely.

The dates of the T1 terrace are much easier to determine with some degree of certainty. As the ice sheets of the Late Wisconsin glaciation began to withdraw, sea level began to rise, drowning the mouth of the paleo-Trinity system, reducing the river's grade by roughly 100 m or more, and causing increased deposition. The effects of rising sea level would have been offset somewhat by the effects of an increasing warm dry climate which would have promoted high run-off rates and destructive flooding. Nonetheless it would seem reasonable to suppose that aggradation would have started shortly after the beginning of the widespread glacial retreat. Deposition would have continued as long as rising sea level could overcome the effects of the increasingly dry climate and the rate of deposition of the paleo-Trinity system. It seems likely that deposition ceased around 5000 to 4500 years B.C. when the rate of sea level rise dropped dramatically (Flint 1971:326-28). Some support does exist for this date in the record of increasingly frequent and severe flooding in the Rio Grande and Pecos River valleys between 5000 and 1000 years B.C. reported by Patton (1977).

After the period of destructive flooding that marked the end of T1 deposition and which probably helped establish the entrenched meander system of the Trinity system in the Lake Ray Roberts area, the climate in Texas seems to have stabilized (Bryant and Shafer 1977:18). This stabilization would have allowed the formation of the T0 terrace, (the present river floodplain) by erosion of the surrounding uplands and the deposition of material during floods. Deposition is still continuing on this terrace although the nature and amount of the deposits is controlled more strongly by agriculture and other human activity than by natural forces.

Ten exposures of the deposits of the T1 terrace were studied in the field (see Figure 3-3 for their location). Generalized geologic columns are given in Figures 3-4 through 3-12. As can be seen, the dominant lithology at sites A and B is a light gray clay (Figures 3-4 and 3-5). The clay contains a small percentage of very fine sand or silt, occasional bone

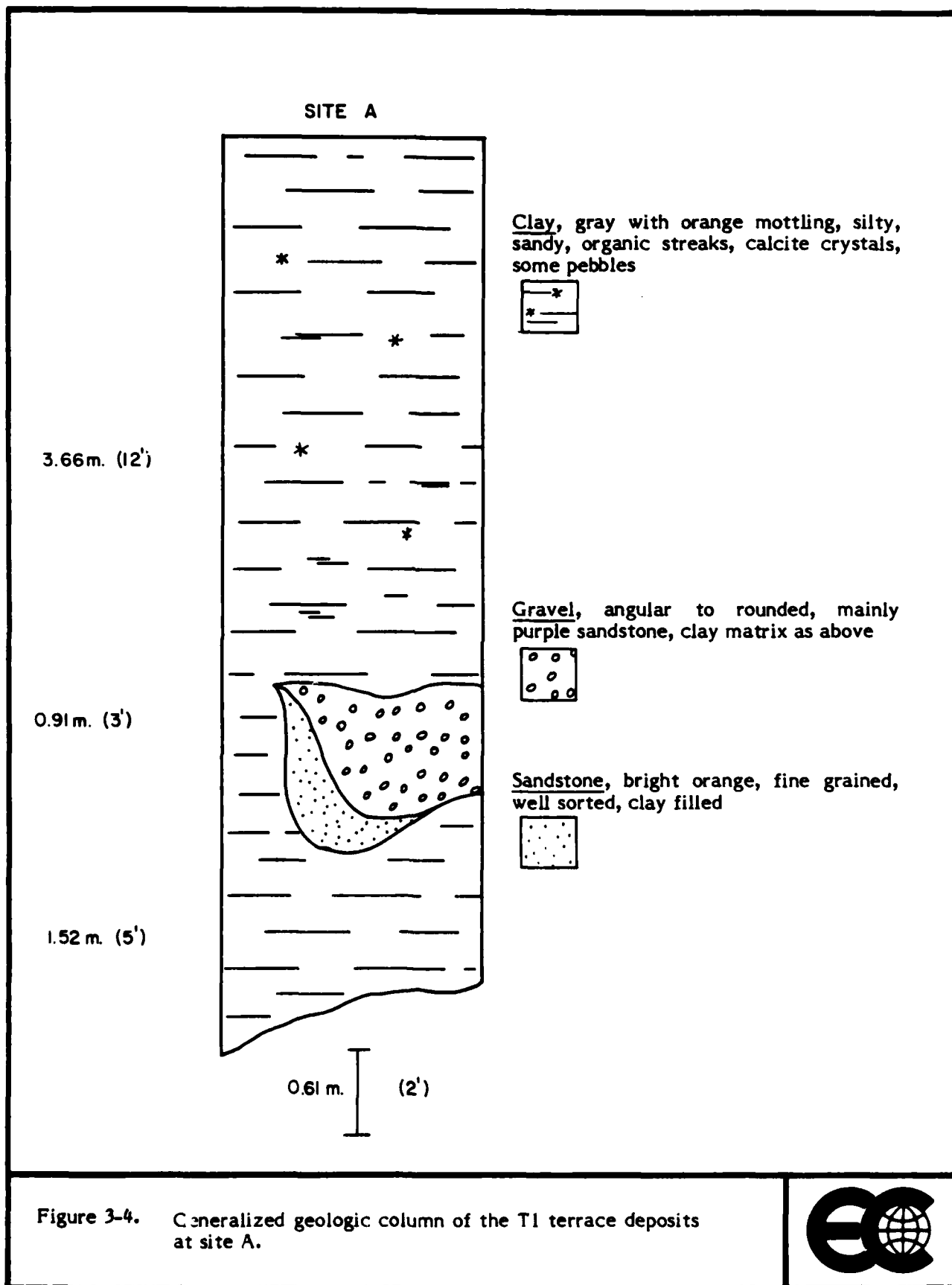
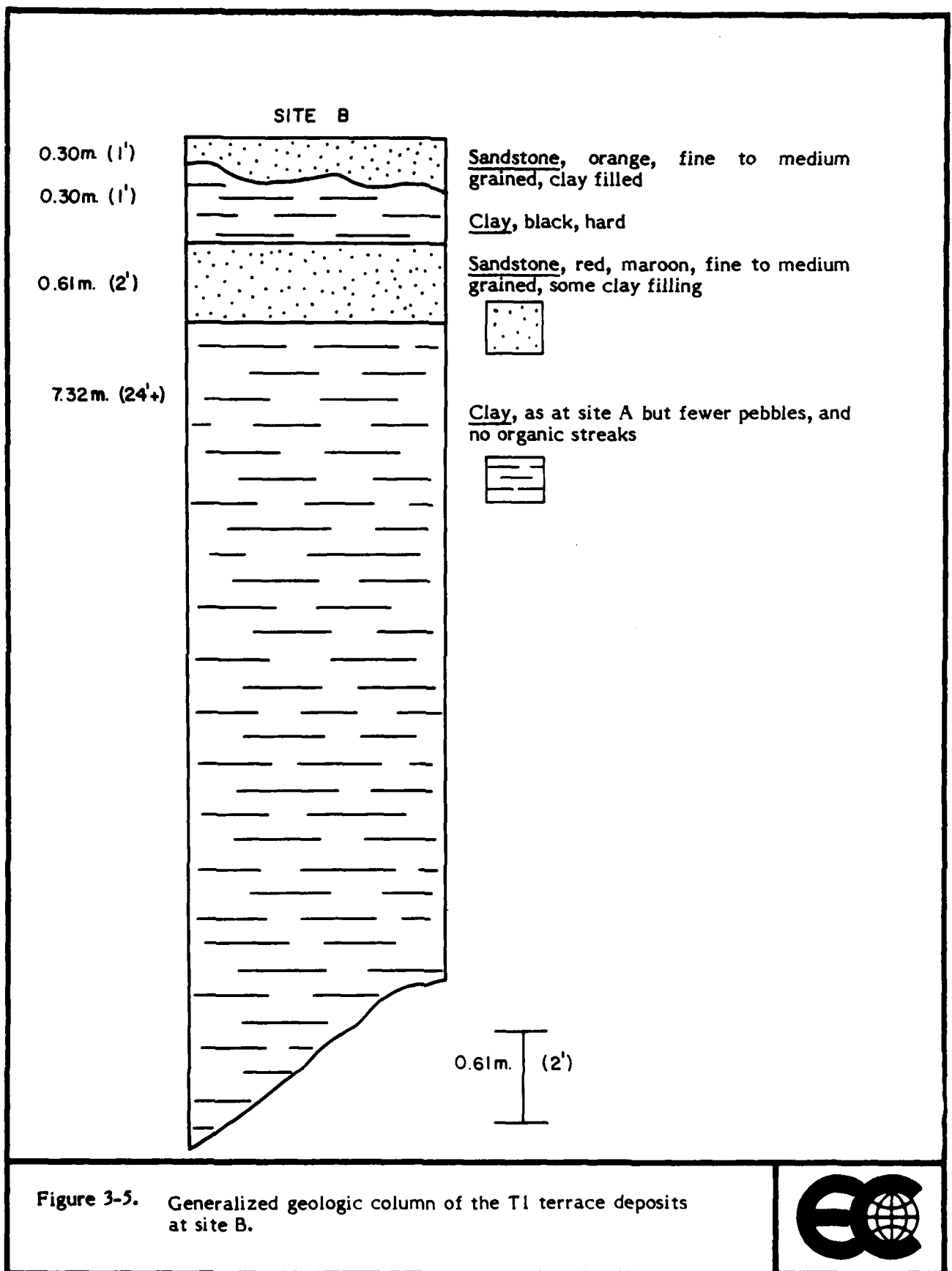
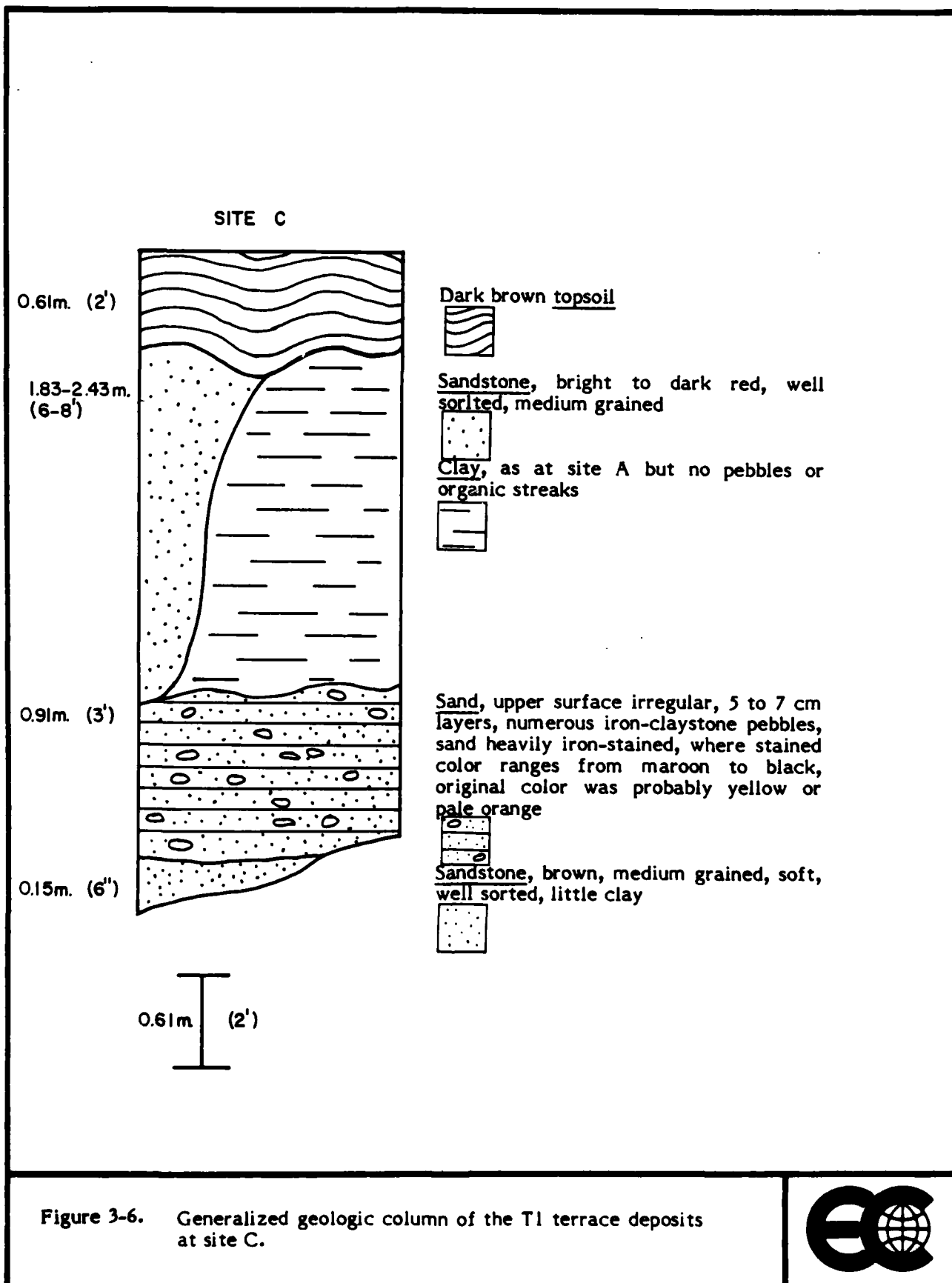


Figure 3-4. Generalized geologic column of the T1 terrace deposits at site A.







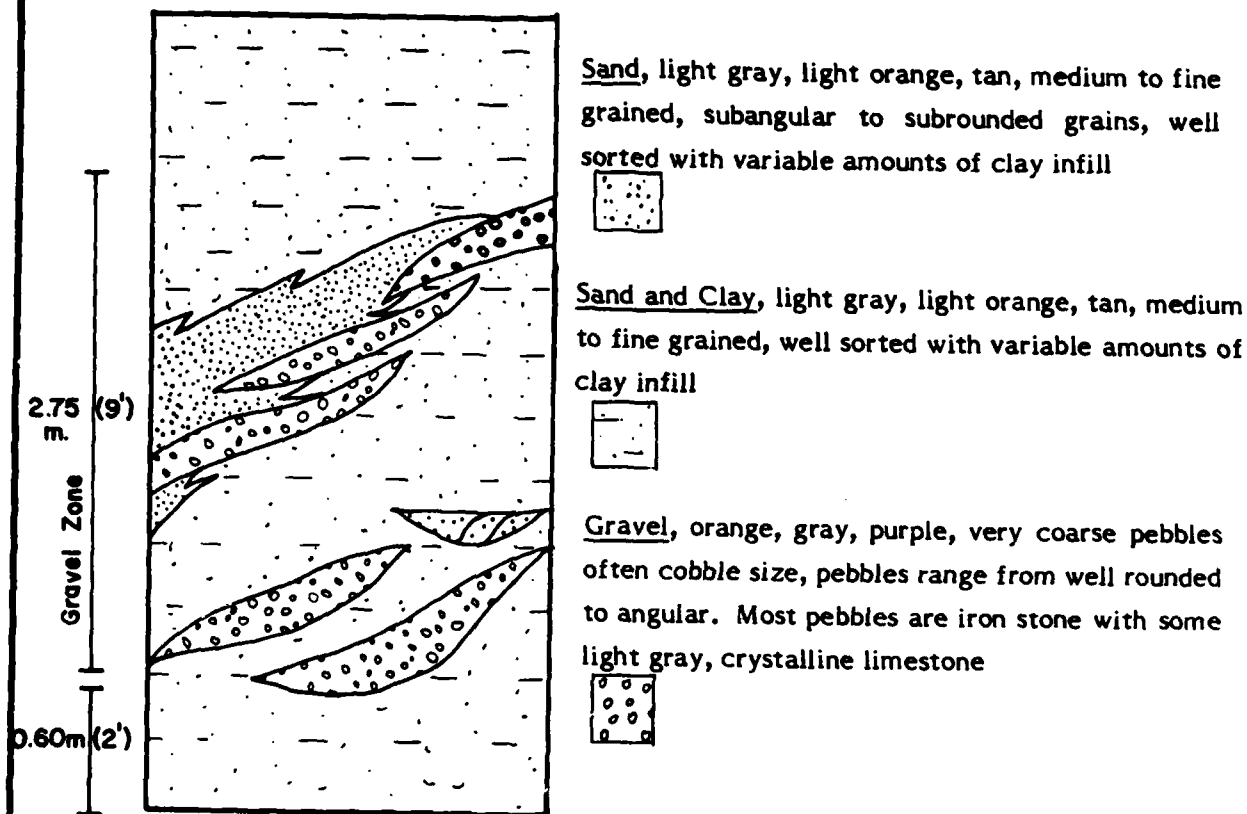


Figure 3-7. Generalized geologic column of the T1 terrace deposits at sites F and G.



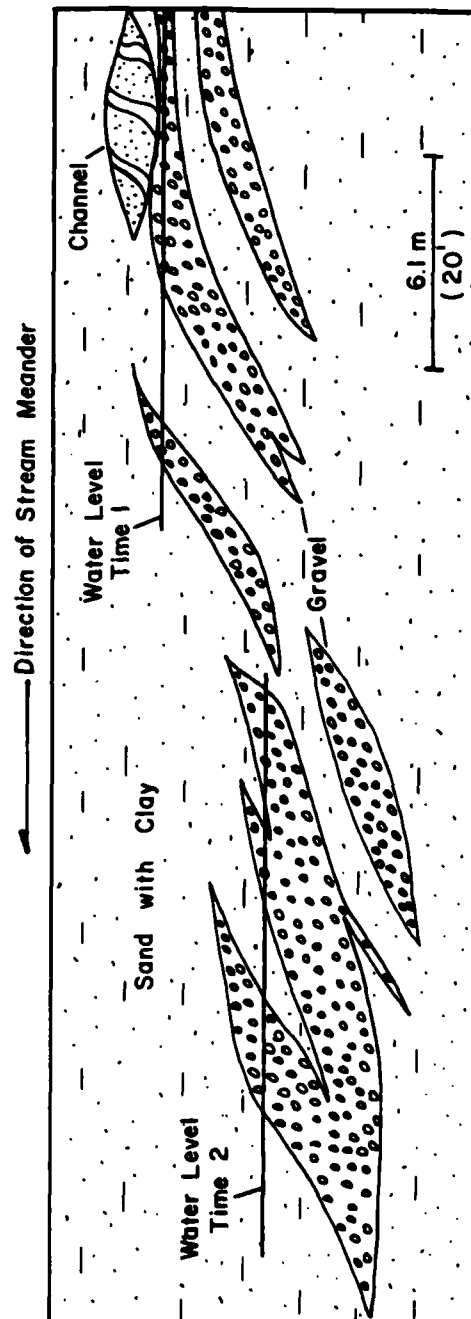


Figure 3-8. Geologic cross section of site F.



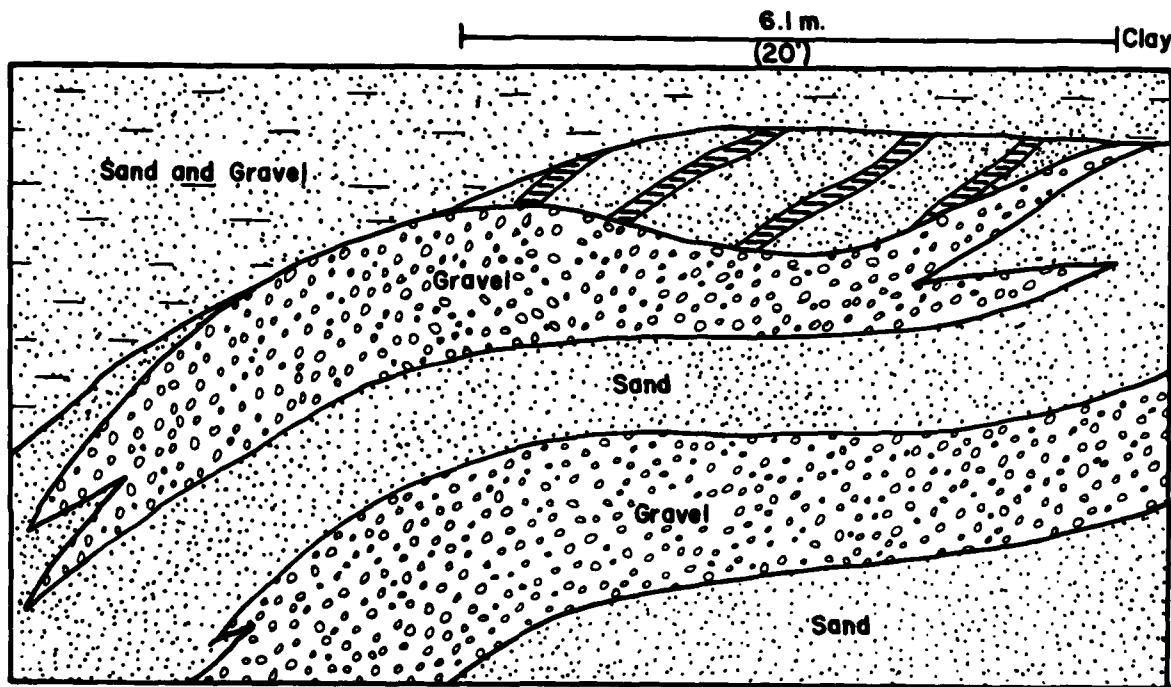
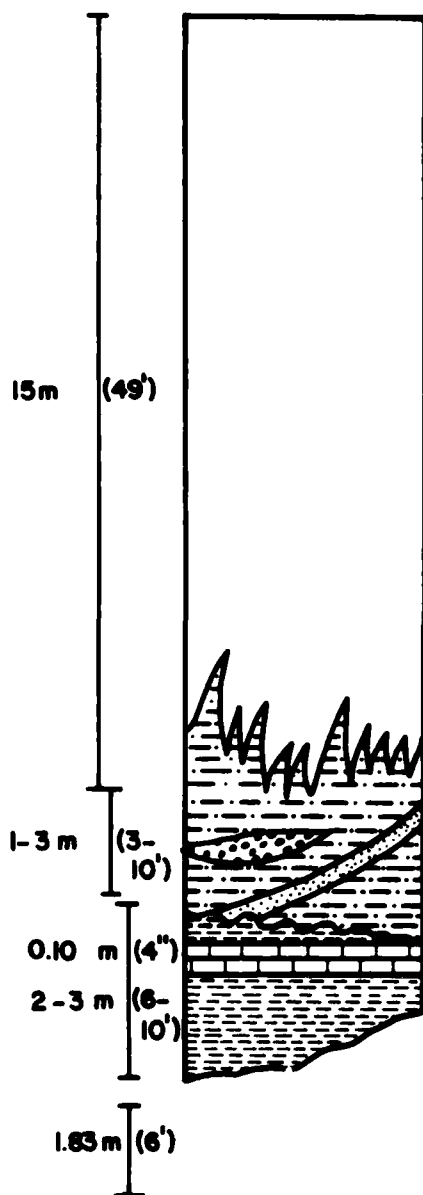


Figure 3-9. Detail of quarry wall at site F.





Upper outcrop weathered uniform light orange color. Probably silt with minor sand and gravel as below.

Silt, light orange to yellow, dirty, minor clay content, sandy, soft, loose

Gravel, rounded, mainly purple ferruginous sandstone (ironstone), in a silty, sandy matrix, very small pebble size.

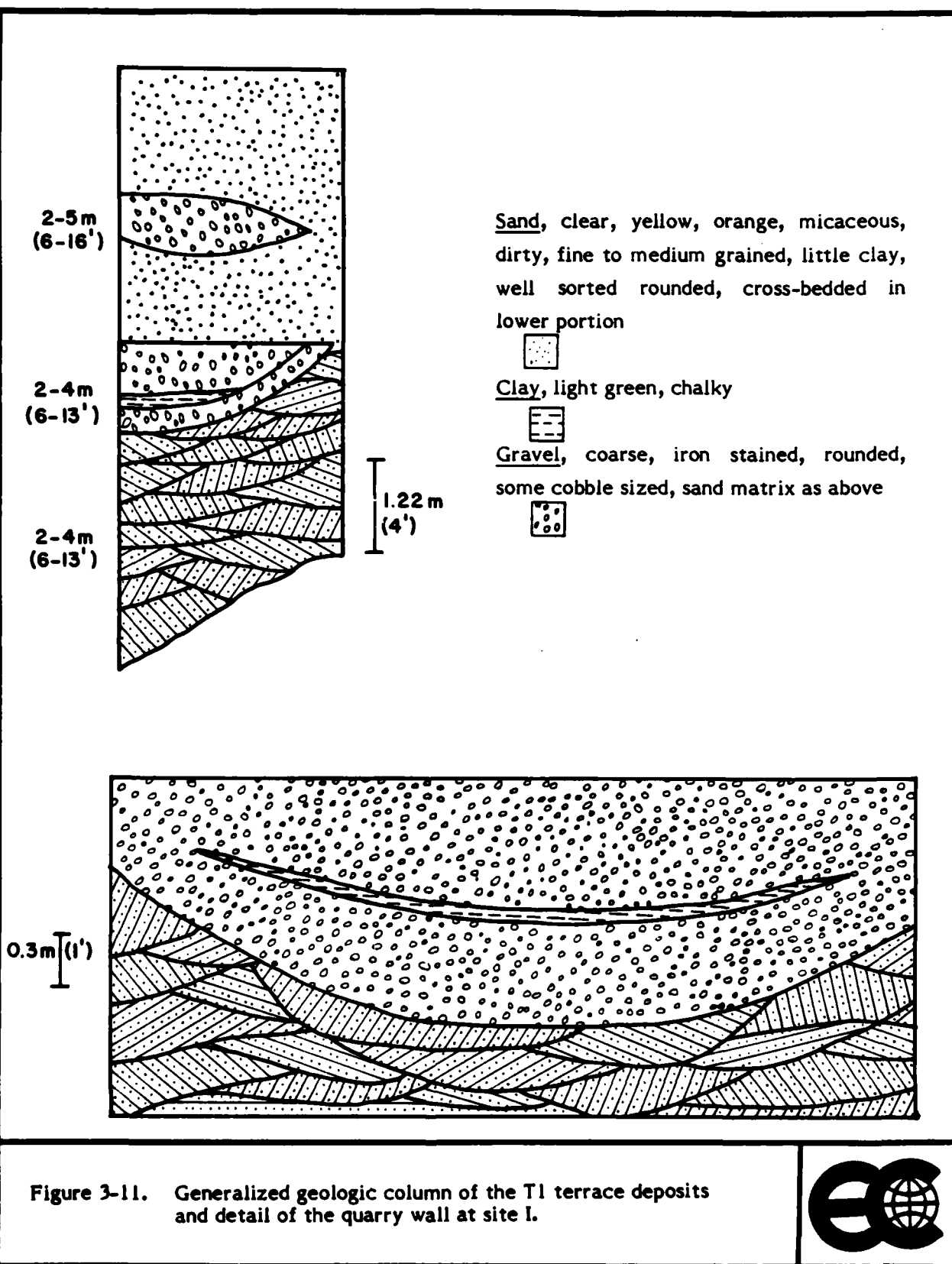
Sand, tan, clear, yellow, fine to very fine grained, dirty, well sorted, subangular grains, soft, loose

Limestone, massive, fossiliferous, crystalline, tan to pale orange

Shale, light gray, calcareous, soft, fissile, 2 cm wavy bedding

Figure 3-10. Generalized geologic column of the T1 terrace deposits at site H.





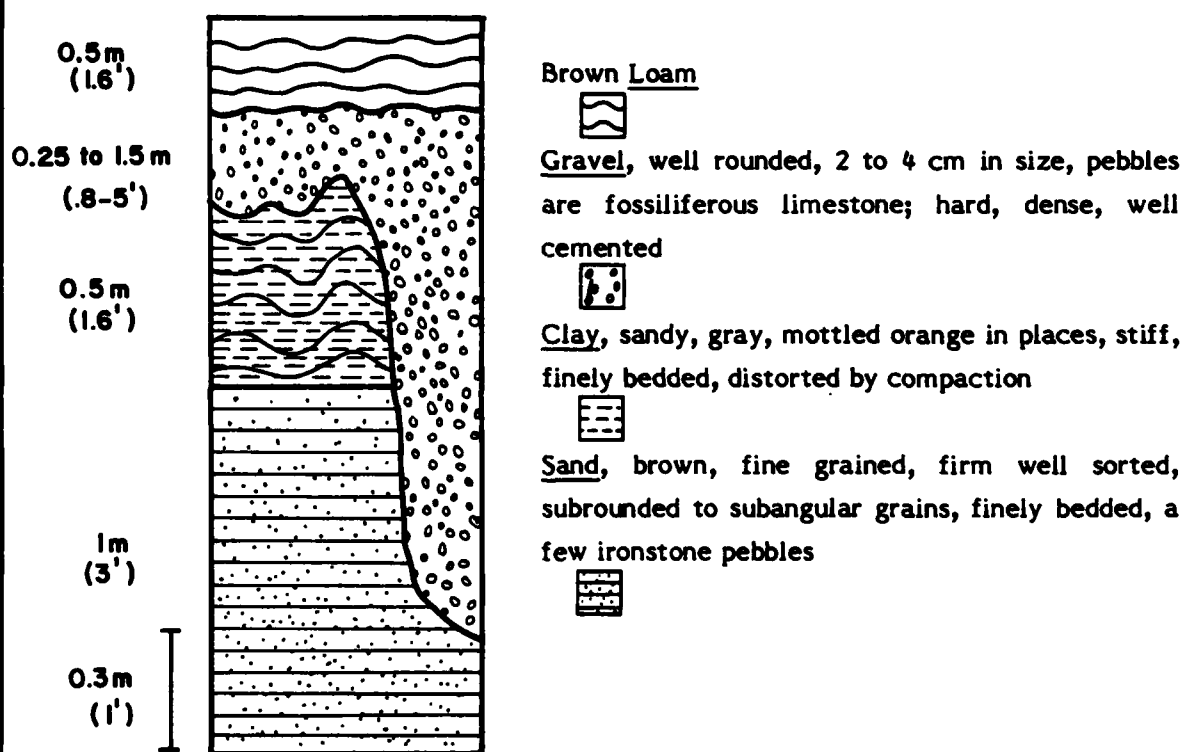


Figure 3-12. Generalized geologic column of the T1 terrace deposits at sites J, K, and L.



fragments (?) and calcite crystals, a few dark organic streaks and calcified plant roots, and has a mottled appearance because of orange iron staining. The clay is fairly firm and shows signs of partial compaction so most of the calcite crystals are probably related to dewatering.¹ At site A, the clay contains two lenses of gravel that have a maximum thickness of 91 cm. The gravel is composed of rounded to angular pebbles (rounding increases with decreasing size), between 0.76 cm and 5.08 cm in length in an orange clay matrix. Most of the pebbles (roughly 65%) are fairly small and are composed of dark purple or maroon sandstone much like that exposed on the valley side west of site E (probably part of the lower Pawpaw formation). Some small pebbles of this composition occur in the clay above and below the gravel bed. Most of the remainder of the gravel is composed of larger tan to buff, coarse to finely crystalline limestone pebbles derived from the Main Street Limestone. One rectangular cobble of this same material was noted in the gravel bed. In one place, the gravel bed was underlain by a 15 to 20 cm lens of bright orange, very fine grained, well sorted sand. The contact of the gravel with the underlying units was very sharp and dipped slightly to the south (it was impossible to determine dip sense in any east-west direction). The upper contact was more gradational. No gravel beds were observed at site B, but they may have been obscured by slope slump into the gravel pits. The upper three layers at site B may be Holocene in age and may represent continued erosion of the surrounding uplands.

The light gray, orange-mottled clay observed at sites A and B also is present at site C (Figure 3-6). At site C, the clay does not appear to contain as many pebbles or calcite crystals as at either A or B, nor was any organic material noted. The clay has been channeled after deposition and the cut was filled by a fine grained, well sorted, dark to bright red sand that contains a fair amount of clay. Underlying these units is a zone of fine grained, well sorted sand which contains numerous pebbles. The pebbles are rounded and small, and are composed of hard, dark red to purple ferruginous claystone and shale. The pebbles and some of the sand appear to have been derived from the Pawpaw Formation. The remainder of the sand appears to have been derived from the Woodbine Formation. In many places, the iron-claystone pebbles have stained the originally yellow to pale orange sand to a dark maroon, almost black color. This staining completely obscures the 5 to 7 cm of horizontal layering of the sand in some places. The iron-stained sand has been well cemented with limonite and other hydrous iron oxides and tends to be hard and friable while the unstained sand is soft and loose. The upper surface of this sand is fairly irregular. This could be related to local differential compaction or to a period of erosion before the deposition of the overlying clay. Below this deposit is a bed of fine grained, well-sorted, brown sand containing some finer grained material. The contact between this sand and the gravel bed is quite sharp, as are most of the contacts at this site.

Unlike the first three locations, sites F and G are dominated by sands and gravels (Figure 3-7). The gravels occur in a series of 1 m thick bars that seem to be building into a channel that is meandering to the north or northwest. The water level in this

1. After deposition, mud slowly compacts to clay and then to shale. During this process, the original column of mud suffers a 20 to 40 % volume loss as water that was bound to clay particles in the mud is expelled. Since the muds in this area contained substantial quantities of calcium in various forms, it is likely that as the muds expelled fluid in the dewatering/compaction process that some of the calcium was remobilized. This dissolved calcium would then be redeposited as calcite crystals when the expelled fluid became saturated with calcium carbonate or a favorable zone for crystal formation and growth was encountered.

channel was falling with time as can be seen from the fact that the gravel bars occur lower in the section with time (Figure 3-8). The source of the sediment again seems to be fairly local in nature although a few of the pebbles seem to have come from well outside the study area (i.e., pebbles of dense, white quartzite and dense, hard, finely crystalline, medium gray limestone). The sand/clay units do not appear to have any internal structure except where a channel formed on the shoreward side of one of the gravel bars (Figure 3-9). The sand/clay units are generally very soft while the gravel beds tend to be hard and somewhat cemented with calcite or limonite.

Site H is a badly weathered exposure along the Walnut Branch of Isle du Bois Creek. Patterns within the Pleistocene deposits are hard to discern because of the uniform light orange color imparted by weathering. The Pleistocene deposits, which appear to consist primarily of thin lenses of small ironstone pebbles in a matrix of fine grained dirty yellow sandy silt (Figure 3-10), rest unconformably on a cretaceous shale (Grayson Marl?) which contains a 10 cm thick bed of hard, crystalline fossiliferous limestone near the top. The Pleistocene silt also contains a number of small sand lenses that may represent channel deposits which cross-cut the silt beds at modest angles (10 to 20°).

Site I is again dominated by sand and gravel (Figure 3-11). The site has numerous, prominent gravel filled channels and many cross-bedded channel sandstones. The gravels are coarse, heavily iron-stained with some 10 to 13 cm cobbles of limestone and light purple quartzite. The dominant pebble lithology is iron claystone and ferruginous purple sandstone. The sands are clear to orange in color, fine to medium grained, micaceous with a moderate content of hematite and other heavy minerals and a trace of fine gravel. The sands are finely cross-bedded with cross-beds approximately 5 to 10 mm apart. The cross-bedded units are roughly 1 to 2 m long and 5 to 20 cm thick. These cross-bedded sands are cut by the gravel filled channels which are up to 2 m deep and 5 m wide. Some of the channels contain 2 to 4 cm thick beds of light green, chalky clay.

Sites J, K, and L also are dominated by coarser clastics although there is some of the orange mottled gray clay so prevalent at sites A, B, and C (Figure 3-12). The gravel consists of well rounded pebbles of fossiliferous limestone of local origin averaging 2 to 4 cm in size, with some clasts ranging up to 10 cm. The gravel is dense, hard, and well cemented with a matrix of sand and calcite. The gravel has channelled and caused differential compaction in the clay and sand layers below it. The sand is fine grained, brown, and has 1 to 3 cm bands with a few ironstone pebbles. This sand is conformably overlain by a 50 cm thick bed of gray, sandy, orange mottled clay. The clay has 3 to 6 mm beds and has suffered severe internal distortion because of differential compaction. Both of these last two units have been cut by the gravel channels (this is best seen at site K), which are up to 1.5 m deep and 3.5 m wide.

Three exposures of the deposits of the T2 surface were studied in the field. Site D is a deflation surface exposure just northeast and down hill of an outcrop of the Main Street/Grayson interval. Numerous pebbles and cobbles of various lithologies were present, including some of light gray quartzite and white, iron-stained quartz. Several of the quartzite pieces are very angular, and at least one appears to have been worked by early man.

The T2 deposits at site E consist of 6.09 to 7.62 m of very fine grained, well-sorted, rounded to subrounded, clean sand (Figure 3-13). The sand contains numerous flat, angular, iron-clay pebbles characteristic of the Weno Shale. The sand, where it has not been weathered to a uniform brick red color, is observed to be finely bedded (beds 2.5

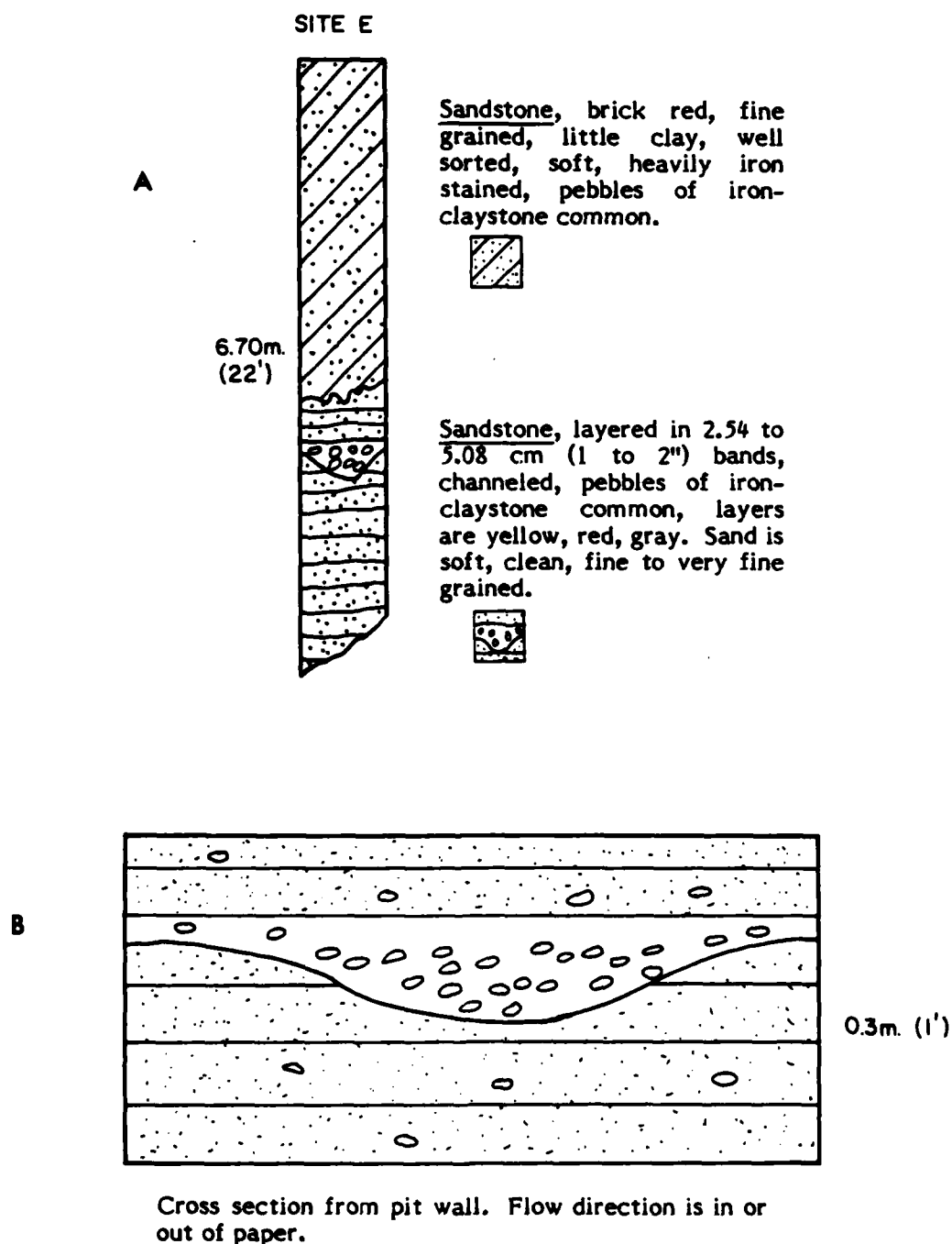


Figure 3-13. Geologic column and cross-section of the T2 deposits at site E.



to 5.1 cm thick). This fine, regular bedding is disrupted in one place by a small scale channel cut and fill.

Site M consists of the badly eroded remnants of a portion of T2 terrace. As at site D, there are numerous pebbles and cobbles of various lithologies, including some light gray quartzite and perhaps some chert. This site is littered with quartzite and chert flakes indicating intense quarrying and stone working by early man. The matrix in which the pebbles are found is a fine to medium grained, yellow to orange, well-sorted, clean sand that appears to have been derived from the Woodbine Sandstone.

Based on the exposures described above, it seems clear that the Pleistocene terrace deposits were laid down by a combination of braided and meandering stream systems. The stream channels do not appear to have been very large on average (the smallest was 7.62 cm deep, and the largest 2 m deep), and their orientation seems to be variable (at sites A, F, I, and K, the streams flow roughly east-west; at sites E, the streams flows north-south). Much of the sediment the streams carried was of very local origin (pebbles from the Main Street, Weno, and Pawpaw, sand from the Woodbine and Pawpaw, and clay from shaley members of the Washita Group), with little or no material from distant sources.² All of these factors indicate that the sediments in the terraces in the study area were deposited by small- to medium-sized, low to moderate energy, meandering streams that periodically flooded.

A fairly significant difference exists, however, between the depositional systems that were active on the east and west sides of the valley. The streams on the western side of the valley, particularly in T1 time, seem to have been very sluggish, shallow, and marshy. The deposits seem to indicate that this area was covered by a broad, marshy valley, criss-crossed by numerous small, low energy streams. The eastern side, on the other hand, seems to have been drained by several larger, entrenched, moderately deep, meandering streams that had a fair amount of energy. The deposits seem to indicate that the streams were fairly swift and clear with a number of new gravel point bars and gravel islands.

This difference in depositional environments was probably caused by the underlying bedrock geology. The softer units in the west tend to form gentle slopes, slump easily, and contain large amounts of clay. Any stream flowing in this area would have a broad, shallow channel filled with muddy water and probably would soon become choked with plants since these streams would tend to dry up as the water table fell in the dry season. The more resistant units in the east, on the other hand, would promote the formation of entrenched streams that were not of a seasonal nature due to recharge from the Woodbine Sandstone even in the dry season. The load of coarse clastics would tend to indicate that these streams were swift and clear throughout the year.

Based on the limited information available, it is difficult to reconstruct the nature of this area in T2 time. However, based on the few deposits available, it would seem reasonable to assume that the pattern was much the same as in T1 time. It is possible that the streams of T2 time (18,000+ years B.C.) had more energy than those of T1 time (10,000 to 4500 years B.C.) since they all were carrying clean sand, but this difference may be one of source and selective preservation rather than energy level.

2. Some of the gravels at sites F, I, M, and D are exceptions. The chert, quartzite, and dense limestone they contain were derived from well outside the study area although the clasts may represent reworked Woodbine gravels.

To summarize, it seems that the environmental conditions outlined in the preceeding paragraphs persisted throughout the deposition of the T1 and T2 terraces. The evidence that supports the hypothesized depositional environments outlined above is as follows:

1. the predominance of clays and other fine grained material in the sediments on the western side of the area;
2. the presence of organic material in the clay on the western side;
3. the poorly sorted nature of the sediments (e.g., pebbles occurring throughout the light gray clay) on the western side;
4. the lack of graded bedding or varves often found in areas of periodic flooding (except site K);
5. the small size of the observed stream channels in the western side versus the larger channels to the east;
6. the local nature of sediment source (except as noted);
7. the lack of subaerial features (i.e., soil horizons, dessication cracks, etc.);
8. the horizontally layered, thin bedded sands at sites C and E which are very suggestive of transverse bar deposits in a braided stream environment; and
9. the cross-bedded sands at site I and the general bars at site F that suggest a meandering stream system with moderately deep channels and continuous water flow.

The T0 terrace is poorly exposed throughout the entire area except as the topsoil in plowed fields. The material that could be observed varied from a sticky, stiff black clay to a somewhat sandy, dark brown silt or clay. The borings obtained by the U.S. Army Corps of Engineers at the Lake Ray Roberts damsite seem to confirm that the bulk of the T0 terrace is composed of dark colored clays with minor amounts of silt and sand (USCOE 1976). The basal layer of the T0 terrace, however, seems to consist of a layer of sand and gravel that is up to 3 m thick. This layer of sand and pebbles may have been deposited during the flooding at the end of T1 deposition when the Elm Fork of the Trinity River was actively down-cutting its channel.

The depositional environment of the T0 terrace is much different than that of the two older terraces. Judging by the deeply entrenched, meandering nature of this part of the Trinity River system, and the extremely fine grain size of most of the material in it, it would seem that the T0 terrace was mainly laid down as overbank deposits during floods and periods of high water, at least until recently. The advent of large scale agricultural activity in the last 100 years has greatly increased the amount of soil eroded from areas above the T0 terrace, and it is possible that these areas are now the major source of sediment for the T0 terrace. To summarize, the T0 terrace is composed primarily of overbank deposits of a river system very similar to the one now present in the Lake Ray Roberts area as opposed to the Pleistocene terraces which were deposited by a combination of braided stream systems that criss-crossed a wide, marshy river valley on the west and meandering streams with well-defined channels that crossed a well-drained area on the east.

Probable Location of Early Man Sites

As mentioned before, an age of 10,000 to 4500 years B.C. is hypothesized for the oldest and youngest sediments of the T1 terrace. Based on this and the nature of the environment envisioned for T1 time, it seems unlikely that major camps or settlements older than 4500 years B.C. would be found in or on the T1 terrace. Small seasonal gathering camps of this age utilized during the "dry" season(s) may exist in or on the T1 terrace in this area. Because of the better drained nature of the eastern side of the area, it is possible that major sites older than 4500 years B.C. could be located here,

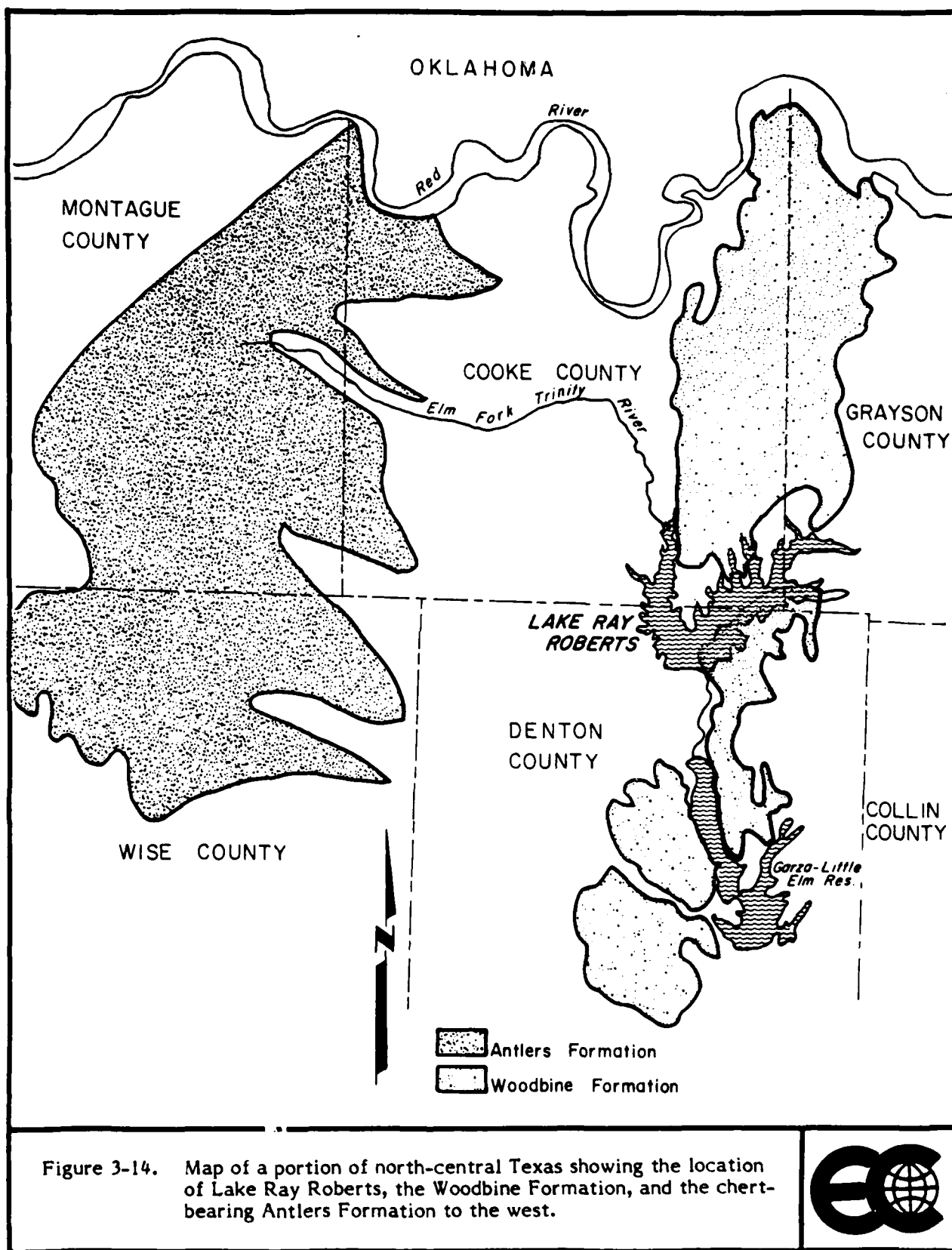
but it would seem more likely that only small camps of this age also would be found here. The more probable location of large sites older than 4500 years B.C. is in or on the T2 terrace deposits. Sites younger than this are likely to occur on or near the T1 terrace surface, or in or on the T0 terrace, with the T1 surface probably being the most probable location.

Because of the types of environments that are proposed, it would be reasonable to expect a much greater concentration of sites in the eastern portion of the study area along the Isle du Bois and its tributaries for two principal reasons. First, the marshy conditions hypothesized for the western side of the area would have been highly unattractive to early man because of the dense vegetation, muddy terrain, and the poor and seasonal nature of the water supply. The eastern area, with its constant supply of clear water and drier lowlands along the streams, would have been much more attractive. Further, the year round supply of water and sandy soil conditions would have favored the growth of stands of trees as opposed to the dense marsh grasses in the west.

These woodlands would have furnished early man timber for many different uses. In contrast to these attractions, the western side of the area may have offered more and better raw materials in terms of utilizable stone. While the Woodbine Formation of the eastern side of the area does carry small amounts of chert sands and gravels (Oliver 1971) these appear to be both too small in size to be economically useful and too rare to be a reliable source of raw material. In fact, this material has only been identified in deep corings and no surface source is currently known.

The major source of chert and novaculite for the study area in fact appears to have been the Cretaceous Antlers Formation to the west, obtained either from gravels eroded from it or by direct quarrying. The Antlers Formation, a Lower Cretaceous sandstone, is exposed along the headwaters of the Elm Fork of the Trinity River to the north and west of the study area (Figure 3-14) and does contain large amounts of pebble- to cobble-sized, varicolored cherts, reported to be stripped from the Arbuckle and Wichita Mountains of Oklahoma (Fisher and Rodda 1966, 1967; Moore 1969). This unit, which underlies the Western Cross Timbers, is up to 55% chert in places and would have provided ample quarry sites for early man only 45 to 65 km both to the north and the west of the study area in a belt extending northeast from Forestburg in Montague County, through Muenster to Bulcher and Sivells Bend in Denton County (Fisher and Rodda 1967). Since outcrops of the Antlers Formation probably existed in much the same area in Pleistocene times, undoubtedly some of its cherts were eroded and redeposited in glacial river terrace gravels. It is quite possible that these cherts would have been available in the Elm Fork gravels, although investigation of these deposits have failed to reveal any. Flakes of what appears to be Antlers Chert have been identified as present in at least one prehistoric site within the study area (Larry Banks 1981: personal communication).

Another source of lithic raw material within the study area consists of limited deposits of surface gravels containing quartzite cobbles identified as Oglalla Quartzite or Oglalla Chert. Several sources (Byrd 1971; Seni 1980) make it clear that the depositional range of the Oglalla Formation was well west of Ft. Worth and probably in the vicinity of a north-south line along the east side of the Texas Panhandle. Thus, the Oglalla-like material in the study area is presumed to have been eroded and redeposited in a glacial terrace deposit. This material was definitely utilized as raw material by early man, as a number of small procurement sites have been identified within the study area.



To conclude, it seems clear that the bulk of early man sites will probably be found in the eastern portion of the Lake Ray Roberts area, either on the T1 terrace or in the eroded remnants of the T2 terrace. This prediction is based on the more favorable environment hypothesized for this area as well as the plentiful supply of wood and stone thought to be located there.

IV. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

History of Research

Extensive archaeological investigations have been conducted in the upper Trinity River Basin. These studies include extensive site survey and excavation in the major lakes which dot the area. This work has been carried out by both professional and amateur archaeologists within the past 40 years. For a general summary of the archaeology of the Elm Fork of the Trinity, the reader is referred to Smith 1969; Skinner 1972; Humphreys 1972; Nunley 1973; Bousman and Verrett 1973; and Lynott 1977. In addition, several surveys have been conducted of housing developments, pipelines, parks, and other small-scale land modification projects. This research has provided a basic five-stage chronological sequence (after Bousman and Verrett 1973; Lynott 1977) for the study area:

Paleo-Indian Period	9500-6000 B.C.;
Archaic Period	6000 B.C.-A.D. 600;
Neo-American Period	A.D. 600-A.D. 1600;
Historic Indian Period	A.D. 1600-A.D. 1830; and
Historic Anglo-American-Period	A.D. 1830-A.D. 1981.

For our own research purposes, a division of the Archaic period into three phases has been made on the basis of artifact assemblages. This division consists of an Early Archaic phase tentatively dated from 6000 B.C. to 4000 B.C., a Middle Archaic phase from 4000 B.C. to 2500 B.C., and a Late Archaic phase, dated from 2500 B.C. to A.D. 600. The distinctions between these three phases of the Archaic period are based on the previously defined Carrollton and Elam foci (Crook and Harris 1952, 1954; Suhm et al. 1954).

In a similar manner, the Neo-American Period has been divided into two phases (Lynott 1977:41). The distinction between the Early Neo-American phase (ca. A.D. 600-1200) and the Late Neo-American phase (ca. A.D. 1200-1600) has been made largely on the basis of projectile point styles and a few diagnostic ceramic types (Lynott 1977:82-83).

Finally, the Historic Anglo-American occupation in the area has been subdivided into four periods: the Initial Settlement period, from around 1830 to 1850; the Spread of Settlement period, dating from 1850 to 1875; the Competition period, from 1875 to 1935; and, finally, the Agribusiness period from 1935 to the present.

Paleo-Indian Period (ca. 9500-6000 B.C.)

Important evidence for this period has been found at the Lewisville site, located almost directly south of the Lake Ray Roberts area, on the west bank of the Elm Fork (Crook and Harris 1957, 1958). Intermittent excavations over a period of 6 years within a borrow pit associated with the construction of the Garza-Little Elm Reservoir resulted in the discovery of 21 "red-burned clay hearths" (Crook and Harris 1957:12). These were interpreted as firm evidence of human occupation, and their association with the remains of a Pleistocene fauna made the discoveries extremely important. The discovery of a Clovis projectile point in one hearth (1957:9) and three radiocarbon dates of "more than 37,000 years old" (1957:8) support an early date for the site but raise a number of problems.

Geologically, the site is located on what has been identified as the T2 terrace with a pre-Late Wisconsin date. While the faunal assemblage is generally Upper Pleistocene, it was believed to indicate a "nonglacial period," either an interglacial or an interstadial (Slaughter et al. 1962). The placement of the site (and the terrace) in an interglacial period accords well with the radiocarbon dates, but not with the human artifacts. On the other hand, the ascription of the site to an interstadial, of which there are several within the period of known human occupation of North America (Willey 1966:28), accords well with the archaeological remains, in the absence of the radiocarbon dates. In fact, several conclusions related to the Shuler-Hill fauna would tend to increase the likelihood of the deposit dating to the latter part of the Wisconsin rather than the beginning of a full glacial period. The fauna indicate a moist climate, "slightly warmer than today," but characterized by "an increasingly arid climate" through time (Slaughter et al. 1962:62). This faunal assemblage would fit well with a Late Wisconsin interstadial, such as the Two Creeks, ca. 10,000 B.C. (Flint 1971:562), and with the Clovis point and other human remains.

Questions have since been raised regarding whether or not the burned clay features were actually human hearths (Heizer and Brooks 1965), and the possibility that the Clovis point was planted (Heizer 1974). Recent research at Lewisville has yielded only six small retouch flakes within 6 m² of excavation (Bob Burton 1980: personal communication). However, it is important to note that one of these small flakes was the same type of lithic material from which the Clovis point was made. This would seem to increase the likelihood that the original Clovis point was not planted. Other new data from the site are conflicting. It has been demonstrated that the original radiocarbon dates from the site were contaminated by lignite. But a thermoluminescence date on one of the hearths yielded a reading of 85,000 \pm 15,000 years (Bob Burton 1980: personal communication). In addition, a paleomagnetic reading on one hearth could not be adequately matched to any paleomagnetic reading within the last 2,000 years. Finally, preliminary geomorphological studies indicate that the "hearths" were located within a basin and were all contemporary. At the present time, the best course of action would seem to be to suspend final judgement on the Lewisville site until more data are collected.

Better evidence for Paleo-Indian utilization of the Elm Fork has been found at the Field Branch site (Jensen 1968) on the upper reaches of the Elm Fork in west-central Cooke County. Although the bulk of the material from this site is in the hands of private collectors, two partially disturbed hearths and surrounding lithic material were mapped and collected. The majority of the diagnostic material reported from this site are Paleo-Indian points (one Midland, two Folsom, two Plainview, one Clovis, and one "Hell Gap-like"). One Edgewood point also was reported, but there is now no way of knowing its associations. The remaining assemblage consists of material expected to be associated with a short-term hunting camp where tool-repair and meat-processing activities were occurring (one gouge, one graver, three denticulates, two hammerstones, and six cores). The bulk of the lithic debris (59%) consisted of biface thinning flakes and chips from biface thinning. The two hearths were 100 m apart and probably represent two occupations, but it is impossible to say if both were in the Paleo-Indian period or if one was Paleo-Indian and the other was Archaic. The variety of Paleo-Indian points from the site would argue for the former, but the presence of an Edgewood point (presumably Archaic) may indicate that the latter was the case. Of course, since the Edgewood point has been suggested to be diagnostic of the Early Archaic Carrollton focus (McCormick 1976), its use may actually have begun in the earlier Paleo-Indian period. Carrollton remains have been found elsewhere in the Trinity Basin, at the Obshner site (Crook and Harris 1955) with Paleo-Indian points, and the two point traditions may overlap in time.

Archaic Period (ca. 6000 B.C. - A.D. 600)

The term "Archaic" has been used in the past to refer to an evolutionary stage, a temporal period, and a cultural tradition (see Shafer 1976). Today, it is most often used to refer to "a foraging or hunting and gathering adaptation" (Shafer 1976:5), but it is also used in a practical sense to refer to a block of time during which this "Archaic" type of adaptation (or tradition) was in use. Thus, reference to the Archaic period has a number of important connotations in regard to subsistence patterns, seasonal activities, group structure, population, and technology.

In the area of north-central Texas a foundation for studies of the Archaic period was laid in the 1950s with the designation of the Trinity aspect of the Texas Archaic. The Trinity aspect contained two temporal divisions: an early Carrollton focus, followed by a later Elam focus (Crook and Harris 1952). This work consisted of long trait lists associated with each of these foci, a discussion of the types of sites which occur and their location, and some tentative comparisons with other areas. Unfortunately, almost nothing has been done since the work of Crook and Harris in regard to the north-central Texas Archaic. Indeed, the defining traits associated with these foci have become progressively shortened in the literature until now all that is sufficient to apply a "cultural label" are a few projectile points (for recent reviews of this situation, see McCormick 1976; and Lynott 1977).

Based on projectile point typology, and a single radiocarbon date of 3995 ± 200 B.C. (Campbell 1961) on the Late Carrollton component of the Wood Pit site, it is possible to tentatively break the Archaic period of north-central Texas into three phases: Early, Middle, and Late, and assign tentative dates to them. The best interpretation at present seems to be that what has been defined as the Carrollton focus stretches from the Early Archaic (ca. 6000 B.C.-4000 B.C.) through the Middle Archaic (ca. 4000 B.C.-2500 B.C.). Some Carrollton sites contain early point forms, such as Plainview, Midland, and Scottsbluff along with local Upper Trinity Archaic forms, such as Edgewood, Trinity, and Carrollton. At other sites these "diagnostic" Carrollton points occur with types which are Middle Archaic in central Texas (Weir 1976; Jelks 1978), such as Pedernales, Bulverde, and Palmillas. The Late Archaic (ca. 2500 B.C.-A.D. 600) was characterized by what has been called the Elam focus, defined by locally evolved point forms such as Ellis, and Elam (and possibly Yarborough) along with Middle to Terminal Archaic forms from central and east Texas, such as Darl, Gary, and Kent. The dating of these Archaic phases here has essentially followed that of Lynott (1977:46) and has been made to generally agree with that of Weir (1976:63).

Neo-American Period (ca. A.D. 600-1600)

The term "Neo-American" has been used in Texas to refer to those "cultural manifestations which possessed pottery (whether made locally or acquired by trade), small, light arrow points, and agriculture of a more developed nature than that of the late Archaic Stage" (Suhm et al. 1954:20). From this usage, it is clear that the term can have implications of cultural affiliations or subsistence strategy, but in its practical application it is largely chronological. Lynott (1977) divides the Neo-American period of north-central Texas into an Early phase (ca. A.D. 600-1200) and a Late phase (ca. A.D. 1200-1600). Remains of both of these phases are reported from the Elm Fork watershed (Lynott 1977:82) and from within the Lake Ray Roberts area as well (Bousman and Verrett 1973).

The Early Neo-American phase is recognizable by the presence of grog, grit, or bone tempered ceramics, along with points of the Alba, Scallorn, and Granbury types (Lynott

1977:41). Based on type-level similarities in pottery and projectile points, there appear to be associations to the south with the Austin focus of central Texas and to the east with the Gibson aspect of east Texas.

Lynott characterized the Late Neo-American phase as containing locally-made shell-tempered ceramics (Nocona Plain), and Fresno, Harrell, Perdiz, and Clifton projectile points. This is essentially the complex which has been described as the Henrietta focus (Krieger 1946; Suhm et al. 1954). Lynott (1977:41) sees north-central Texas in the Late Neo-American phase receiving influence from the Fulton aspect of east Texas, the Toyah focus of central Texas and plains cultures to the north. In addition, the Henrietta focus was originally defined as showing evidence of contact with the Pueblo cultures to the west (Krieger 1946). Lynott (1977:82-83) further identifies only one Early Neo-American phase site, the Northlake site in Dallas County which has a single radiocarbon date of A.D. 950 ± 100 . However, the Irish Farm site in Denton County (Barber 1966) seems to have an Early Neo-American component, and artifacts which Lynott uses as characteristics of this phase are among collections from the Lake Ray Roberts area (Bousman and Verrett 1973: Figures 5 and 7).

As stated above, the Late Neo-American phase in the Elm Fork is generally defined by remains attributable to the Henrietta focus (Krieger 1946; Suhm et al. 1954). Sites of the Henrietta focus were generally described as being located on terraces of both large and small streams, and varying in size (Suhm et al. 1954:81). Presumably these were semi-sedentary homesteads or villages where agriculture was the main subsistence pursuit. These remains are placed late in the Neo-American on the basis of several radiocarbon dates: one of A.D. 1575 ± 145 (Campbell 1961; Lynott 1977) from the West Wheeler site, and one of A.D. 1310 ± 120 (Harris, personal communication quoted in Lynott 1977:83) for the Golf Course site.

Material culture during this period seems to indicate ties to southwest Arkansas and south-central Oklahoma, northeast Texas Caddo groups, north-central Texas Wylie focus groups, and Puebloan cultures to the west. This influence may have been coming via the Red River, and may have been linked to the economic exploitation of bison by the inhabitants of the area.

Results of research in the Fish Creek Reservoir (Lorrain 1969:110) seem to indicate that groups along the Red River shared traits diagnostic of both the Plains Woodland pattern and the Plains Village pattern. Lorrain (1969:107) suggests that occupation in the Fish Creek Reservoir was by "a relatively small group of people, probably never exceeding ten nuclear families." She reconstructs the settlement system as consisting of a permanently occupied village on a high terrace, with smaller summer and fall farming hamlets on low floodplain rises, and seasonal hunting, fishing, and collecting stations also in the floodplain.

Historic Indian-Wichita Period (ca. 1600-1830)

The exact relationship between the Late Neo-American population in north-central Texas and the groups of Wichita which inhabited the area historically is unclear. However, after a one-year study devoted to this problem (Bell et al. 1967), Lorrain proposed that the Henrietta focus should be dated from A.D. 1000-1400 and was ancestral to the historic Wichita. She suggested that the Plains-adapted Henrietta focus groups moved eastward from north-central Texas to the eastern fringes of the Caddo area between A.D. 1400 and 1500, possibly related to a widespread drought (Lorrain, in Bell et al. 1967:33-34, 36). She hypothesizes that the Wichita moved back westward after A.D. 1700, following the western edge of the East Texas Timberlands

south from the Red River to around Waco, then westward to the Cross Timbers, and then northward again (Lorrain, in Bell et al. 1967:36-37).

Lorrain (1967:36) suggests a drought from A.D. 1400-1500 which drove the Late Neo-American populations off of the Plains, while Dillehay (1974:184-185) suggests a "climatic change" around A.D. 1350-1400 which forced a greater reliance on bison hunting at the expense of horticulture and brought on his Bison Presence Period III. Thus, it seems probable that the climatic change suggested by both Dillehay and Lorrain would have driven some Henrietta focus peoples to the east where they developed into the protohistoric Wichita, as Lorrain (1967:34, 36) suggests, while other Henrietta focus populations would have been driven south into the Upper Trinity Watersheds, including the Elm Fork.

Historical Background

Historic Anglo-American Period (ca. 1830-Present)

Permanent white settlement in north-central Texas, including the project area counties of Cooke, Grayson and Denton, was relatively sparse prior to about 1830. The area was far enough from the main centers of early settlement in southern Texas not to receive many of its outmigrants. Indian groups still claimed the region as their own, and this also slowed the rate of white settlement.

Spanish explorers crossed sections of the project area centuries earlier than the first major white colonization effort in southern Texas by Moses S. Austin, although few of those early explorers intentionally traveled through the project area. The first such exploration was commanded by the Spaniard Luis de Moscoso de Alvarado, who passed through present-day Pilot Point in 1542 (Bolton 1908). Moscoso had taken command of the ill-fated Hernando de Soto expedition, and passed through the area near the headwaters of the Trinity River on the way back to Mexico. The exact course followed by Moscoso's group is still a matter of historical debate. Various authors, including Walter Prescott Webb (1952a), have indicated that the group passed through the Cross Timbers region near present-day Sherman in Grayson County. While numerous Spanish colonization attempts occurred to the east of the area (such as the settlements of Alonso de Leon and Hernandez Coronado), little lasting Spanish influence was experienced in the far north-central counties of Texas (Webb 1952a; Bolton 1908).

French exploration was more extensive in north-central Texas than that of the Spanish, who were concentrating on creating a buffer zone in east Texas. The most extensive exploration in the project area counties was that of the French soldier Athanase de Mezieres, who journeyed through the region in the 1760s (Fehrenbach 1968). His main objective in exploring the area was the establishment of amicable trade relations with regional Indian groups, including the Wichitas, Caddoes, Delaware, and Cherokees. Major expeditions into the project area for trade purposes were made in 1770, 1771, 1772, 1778, and 1779 by de Mezieres. Since the project area was part of disputed territorial claim between the French and Spanish crowns, a workable and profitable Indian policy was essential to colonization efforts (Fehrenbach 1968). In addition, as long as major European powers disputed the region called Texas, little peaceful colonization was possible. The situation altered with the acquisition of Texas by Mexico from Spain in 1821. By 1828, Mexican officials were offering land in north Texas for colonization with few restrictions (Hogan 1969).

The first successful colonization during this period was made by Moses Austin, granted 200,000 ac of land by the Mexican authorities in 1821. Although Moses Austin died

before the actual colonization took place, his son made a success of the grant, creating a center of white settlement in southern Texas (Fehrenbach 1968). Although north-central Texas was not colonized for almost 20 years after the Austin Colony's venture, Texas was becoming the new Western frontier. While there were settlers in the area prior to the 1840s, these were small-scale minor settlements (Acheson 1977). In the early 1840s colonists began homesteading along major waterways (such as the Elm Fork of the Trinity) in the blackland prairies and around the southern edge of the Cross Timbers (O'Brien 1944).

The first large colonization in the project area occurred after W. S. Peters of St. Louis and 19 other men petitioned the Congress of the Republic of Texas on February 4, 1841 for a land grant. Their company, the Texian Land and Immigration Company, became known as the Peters Colony and encompassed all the counties in the project area.

The Peters Colonists chose their land according to the availability of water, wood, and arable farmland. In general, they settled east of the Balcones Fault, which passes through the western edge of present-day Fort Worth in Tarrant County and extends north through Denton and Cooke counties. The Balcones Fault marks the boundary between two regions that differ in both soil and climate, especially in amount of rainfall. East of the fault, the area was suitable for farming, while west of the fault, the soil and climate combined to create an area more suited to ranching.

Because the new colonists were overwhelmingly farmers by vocation, the east side was much preferred. Evidence of this pattern is clear from the 1850 Census Agricultural Schedules: Denton County had 149 farmers out of 198 persons whose occupations are listed; Cooke County had 49 out of 60 settlers listed as farmers; and Grayson County had 298 out of 547 listed as farmers. According to Williams (1976), land selection patterns can be directly linked to the fault line.

The first land seen by the Peters Colonists was that of Grayson, Collin, and Dallas counties. Data now available from an 1840 census of the Republic of Texas and reconstructed through available poll tax and local tax records show that approximately 25% of the total land mass of Grayson County was claimed by veterans and other citizens of Texas before the arrival of the Peters Colonists (White 1966). Collin County had less than 12% of its land claimed in 1840, while only 3.2% of the land in Dallas County was claimed or occupied. Logically, settlers could be expected to migrate to the first available farmland they found, in this case Dallas County. From there, as migration increased and less land was available for new settlement, the immigrants began farming in the more northern and western counties. In general, as colonization spread west of the Balcones Fault, land holdings were larger because of the ecological and agricultural factors mentioned earlier.

The Peters Colony settlers, approximately 81% of them farmers, first selected bottomland along the Trinity River and its tributaries. Dallas County was the first area chosen by new settlers. Settlement to the north of Dallas County was slow until most of the available land in that county was claimed. The settlers' next choice for land were sites in first Collin County and then Grayson County. While good, tillable land was available in Cooke, Denton, and Grayson counties, migration routes were such that these counties were developed later than the counties discussed above. The migration route used by most early colonists took them west of Fort Smith, by Fort Towson, into Indian Territory, and then across the Red River around Preston's Fort (where Mill Creek enters the Red River) (Williams 1976).

Some of the earliest settlements occurred in Grayson County. Daniel Dugan and others formed the first town there, called Abel's Trading Post, in 1836 near present-day Pilot Grove (Webb 1952b). Two forts were established in the county by the Republic of Texas in 1840: Fort Johnson, 4 mi north of modern Pottsboro, and Fort Preston, a supply depot on Preston Bend (Webb 1952b). The Peters Colony, which included the western edge of Grayson County, brought additional settlers to the area in 1842. Grayson County was formed from Fannin County in 1846, and Sherman was selected as county seat (Webb 1952a; Connor 1959).

White settlers were in the Denton area as early as the 1830s, with a military outpost located 3 mi southwest of the present city of Denton. Peters Colonists began settling in the area by 1843. Denton County was originally part of Red River County under the Mexican government. It was incorporated in 1837 as a section of Fannin County, but was made a separate entity (along with 30 other counties) by an act of the first Texas Legislature on April 11, 1846. By this time the Central National Road (now Preston Road), located just east of Denton County, had been in existence 2 years, providing new immigrants with an improved transportation route through north Texas (White 1976). The first county seat of Denton County was Pinckneyville, located about 1 mi southwest of the present City of Denton on Pecan Creek. It was abandoned because of its distance from the bulk of the county's population, which was located at that time in the southeastern corner of Denton County (Webb 1952a). The county seat was moved 4 mi south to Alton, but this site was abandoned in the late 1840s because of water shortages. The third site chosen was located on the Alexander E. Cannon homestead on Hickory Creek, 5 mi south of present-day Denton. The first courthouse in the county was built there by 1850, and the name of Alton was retained (Shaffer 1850; Odum and Lowry 1975).

The next area to be settled was the eastern edge of Cooke County. This county was organized from Fannin County in 1848. Numerous initial settlers were "Forty-Niners" who were travelling the California Trail, which crossed east to west across the county. Another important immigration trail, the Chihuahua Trail, also crossed the county. This little-known trail, used primarily in 1839 and 1840, was made by 50 to 60 Mexicans from the town of Chihuahua looking for a shorter route from Missouri than the Santa Fe Trail for trade with the United States. Dr. Henry Connally, a physician from Missouri, was one of the leaders of this expedition. Totally confused, the merchants mistook the Red River for the Brazos, and were finally directed to Fort Towson by Delaware Indians (Webb 1952a, b). The bulk of the road lay to the west of the project area--in the vicinity of present-day Paris and Bonham, south of Sherman, Whitesboro, and north of Gainesville and Muenster, and from there directly into Saint Jo, Texas. In the spring of 1840 the traders, with 60 to 80 wagons of goods, followed this trail to Mexico. Information is scanty on the exact location of the rest of the route (past Bowie), but the same trail was probably later used by the Randolph Marcy expedition. Whatever its exact course, the trail opened the way for westward migration from and across north Texas.

In 1847 the Peters Colony administrators resumed national advertising in an effort to keep their commitments to the settlers and attract new homesteaders (Connor 1953; Williams 1976). A map of the colony, made by administrators for publicity purposes, is notoriously inaccurate, labeling important geographical features such as streams, and creating paper town where none existed. Many of the newly arriving settlers were understandably startled by the lack of any improvements or conveniences (Greene 1973). The renewed advertising and recruiting did result in a boost in population for north Texas. Between 1847 and 1848, almost 1,300 settlers arrived, including the return of 60 to 70% of the colonists who had left 2 years earlier (Connor 1953).

Around 1848, as towns were developing in the area, the colonists were requesting protection against local displaced Indians. Forts were built at Dixon Station, east of Pecan Creek, and Fitzhugh's Fort was built 3 mi southeast of present-day Gainesville (Fehrenbach 1968). By 1846, the rural village of Pilot Point was established, and was later to become a major rural-urban center in Denton and adjacent counties (Bates 1918).

Denton County increased slowly but steadily in population through 1850, but the population was still concentrated in the southeastern corner of the county (Bates 1918; Williams 1976). Alton became a mail route stop in 1850 on a line running from Birdville, Tarrant County, northward to Red River. South of the project area, the village of Denton was emerging as an urban center.

Grayson County's first courthouse was erected in 1847, but few communities of any size or influence existed in the county at that time. Cooke County was comparable in its lack of early development. Gainesville, the only village of any consequence, was not established until 1850 by Edmund P. Gaines (Webb 1952a). The northern regions of both counties were sparsely settled and subject to Indian raids for almost 30 more years (Fehrenbach 1968).

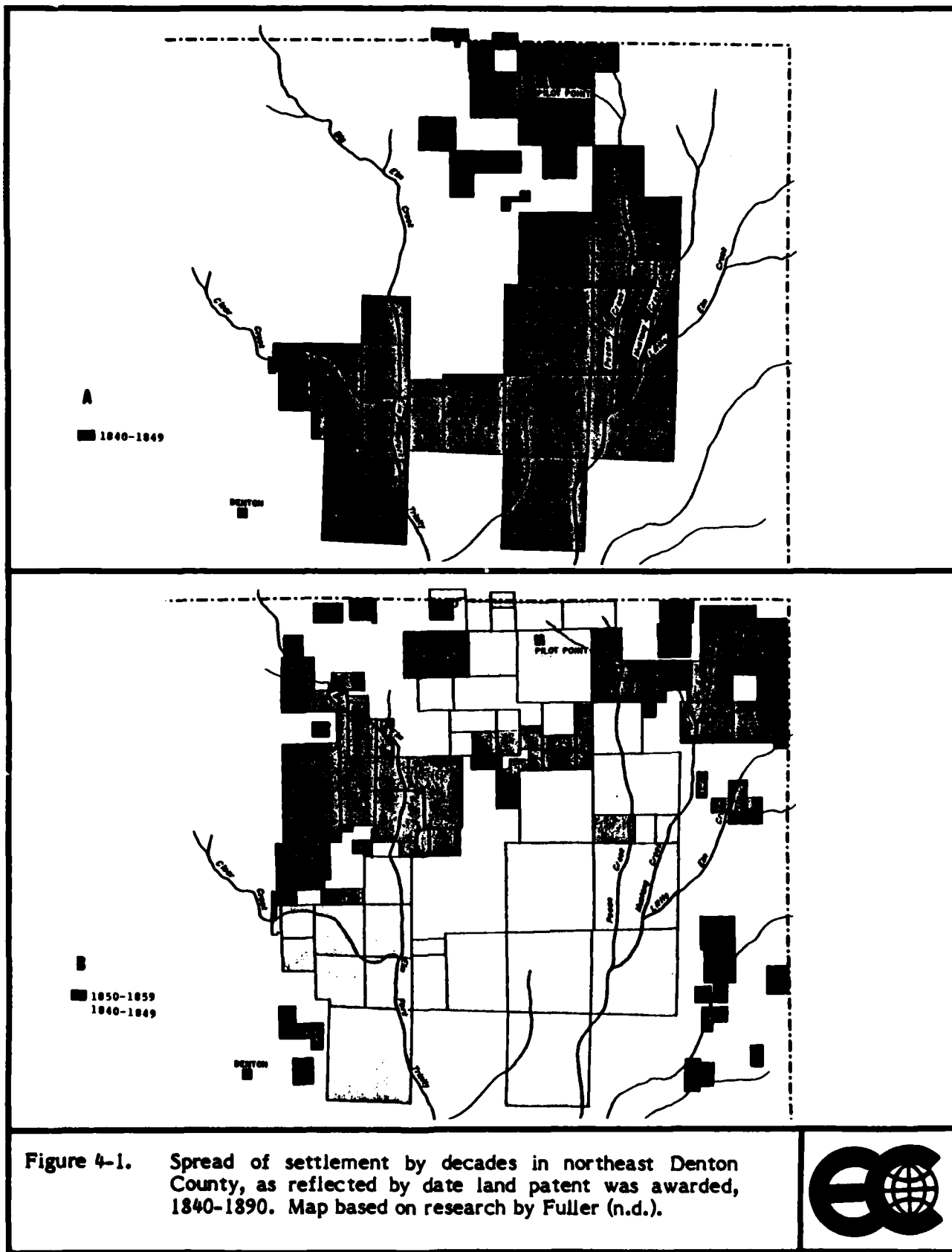
As colonists began to fill the vacant lands in north Texas, settlement extended to new, unclaimed lands in the project area. Urban centers were developing during this period, and rural communities were in their earliest stages of development. Agricultural patterns were developing around cotton and grain production as the main cash crops. The 1850s was a decade of steady growth, especially for the Peters Colonists, whose population had doubled by 1860 (Connor 1953).

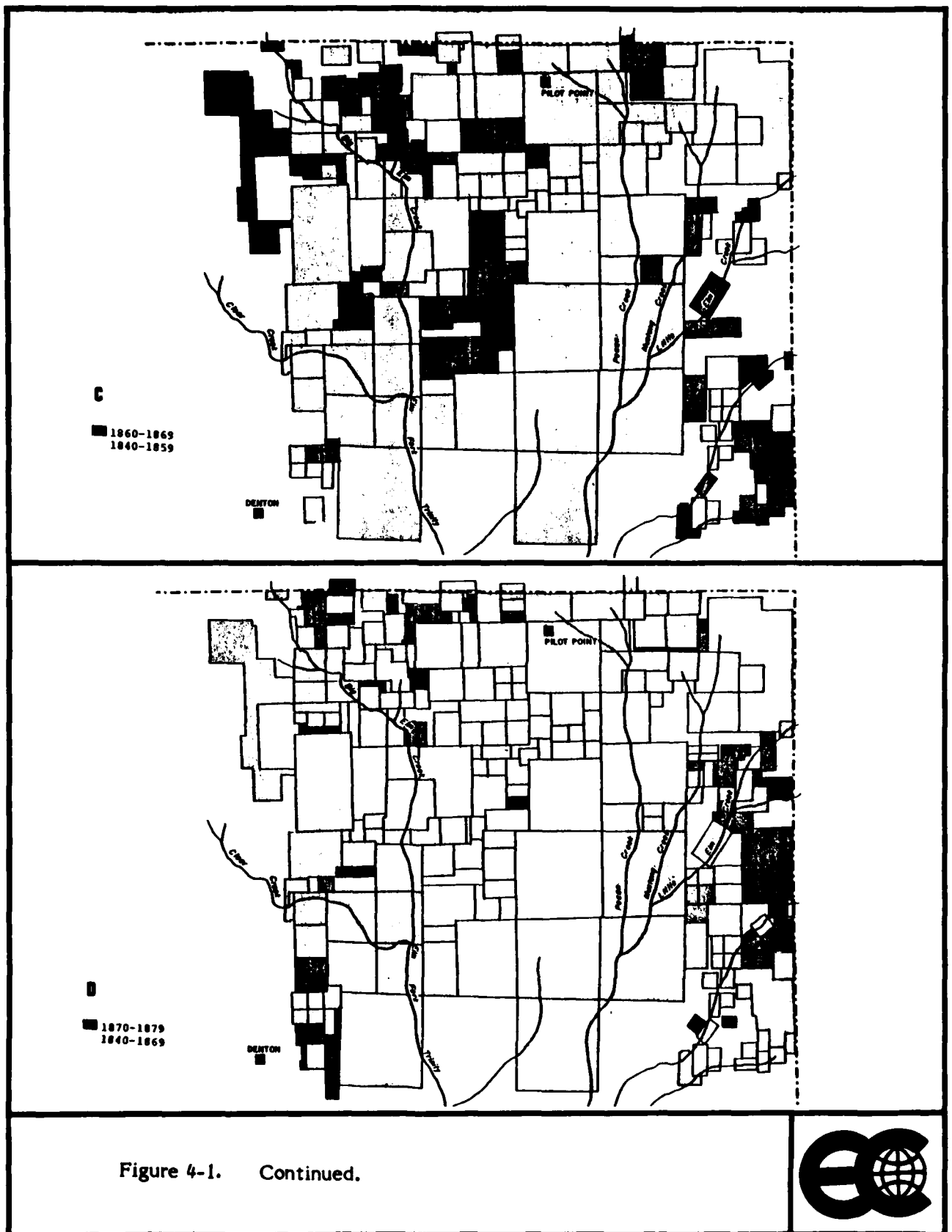
Most of the farms were located in the Cross Timbers during this period. Jefferson, Texas was the closest market center. Freighting developed as an important industry in Cooke County, as supplies were hauled in from Jefferson to be sold locally. In turn, the empty wagons were loaded with local produce, wheat, oats, and corn to be transported north and west to military outposts (Fehrenbach 1968). Sheep and cattle were becoming important sources of income.

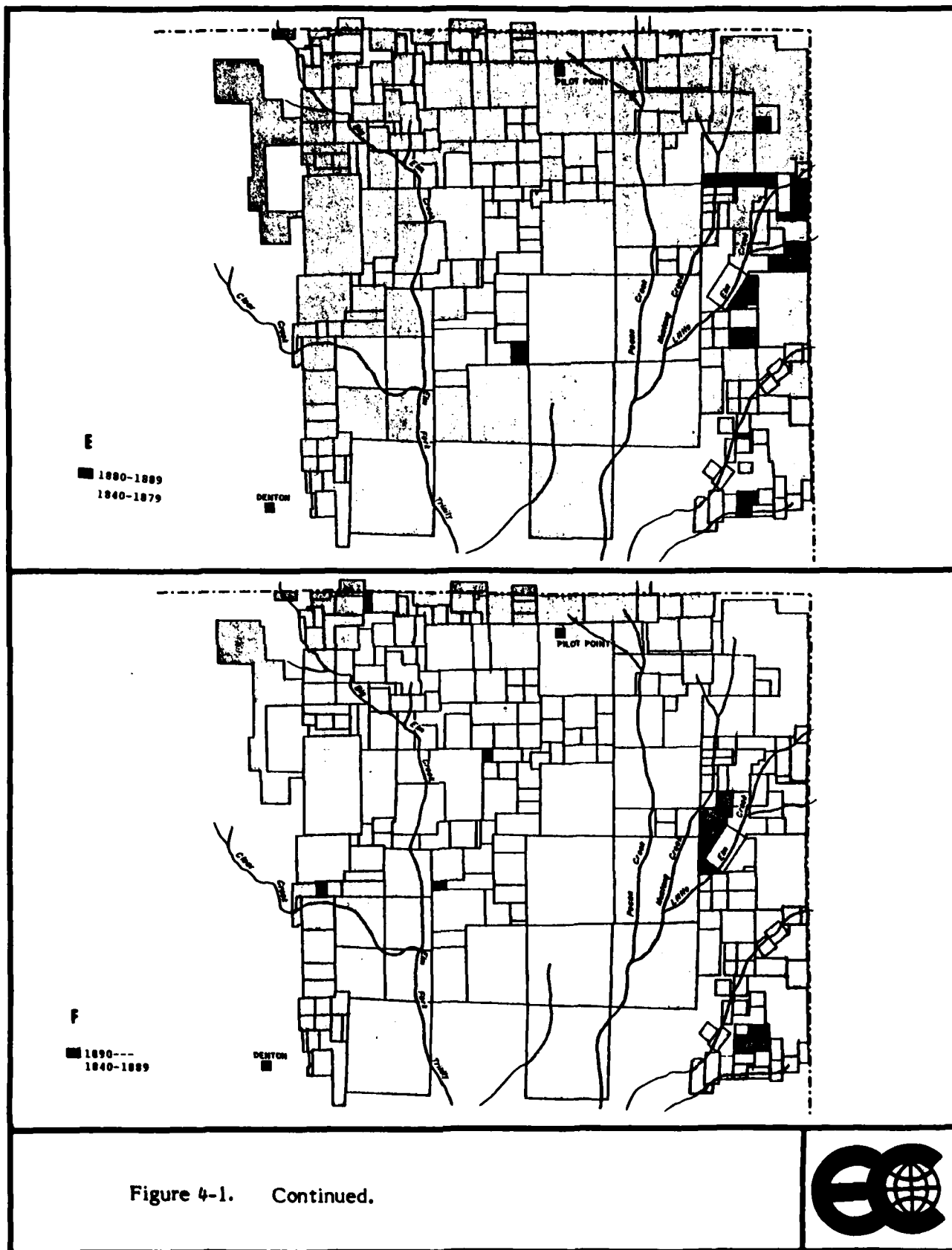
Because of the absence of able-bodied men in the project area during the Civil War years, the frontier again became a dangerous area. As young men left for war, a slow retreat from the edge of the frontier began. Following the Civil War and the cessation of Indian raids, the area began a period of growth. Denton was incorporated in 1866, and 2 years later the Denton Monitor was established there. Grayson County established communication routes as well as commercial transportation routes during this period. The first commercial transport was the mail packet Era, which travelled up the Red River in 1856 (Smith 1955; Webb 1952a). The Butterfield Overland Stage began routes to Sherman from points southward 2 years later. Seven stage stops were eventually established in Grayson County.

The north-central Texas counties were still sparsely settled in 1870, with relatively few communities established. By 1870, most land in Denton County was patented (see Figure 4-1), although some land was obtainable through homesteading or outright purchase. In the 1870s Cooke and Denton counties increased in population, while Grayson County still had ample land available (Williams 1976).

As in Cooke and Denton counties, and to an even lesser degree, rural communities in Grayson County, experienced little growth. The first extensive boom period in the project area, for rural as well as urban residents, occurred with the increased military







aid and the coming of the railroad in the mid-1870s. Because of increased military activity, Indian raids had ceased, and settlements began to expand. The Cross Timbers, with its dense underbrush and timber, served as a geographical barrier to east-west expansion/settlement. Northeastern Denton County was almost completely settled before settlement of the western prairie region began in earnest. The arrival of the railroads to the project area created new markets for crops. The economic crisis of 1873 slowed railroad completion, and stunted agricultural expansion temporarily. Transportation was improving throughout the project area. By 1870, a stage line ran from Denton to Pilot Point. Both towns had populations of about 300 around 1870 (Webb 1952b).

The major change in agricultural practices between 1850 and 1880 was the introduction of barbed wire in 1875; this made it practical to fence in cattle rather than fencing crops to keep livestock out, and had the effect of vastly decreasing the amount of open range land (Grace 1944). In general, the farmers were still farming on a subsistence level, and cotton production had increased only slightly since 1860. Grain, corn, and vegetables were grown for home consumption, and were rarely marketed. Turkeys were raised extensively in the western half of the project area on the prairie farms.

Cattle had become a profitable business in the north-central Texas area after the Civil War, especially in Denton and Cooke counties. By 1870, the cattle industry contributed greatly to Denton and Cooke county's economy and expansion (Cowling 1936; Collins 1981). Gainesville profited by being situated between the Chisholm trail to the west and the Sedalia trail in the east (Bureau of Business Research 1947). Both cattle trails brought welcome revenue to the area.

By 1875 the majority of tillable homesteads had been claimed and settlement had spread across the entire project area; population density was increasing throughout the project area. The Cross Timbers region was the most heavily populated, because the Blackland Prairie was second-choice land for most farmers (Williams 1976).

The Blackland Prairie was used more heavily after 1900, when available land became scarce in the Cross Timbers. Because subsistence farming lasted into the late 1890s, farming was not dramatically different between the Cross Timbers and the Blackland Prairie. With new markets accessible by rail, increasingly more land was put into cash crop production between 1875 and 1900. Cattle or stock production was more intensive on the western side of the project area close to the Grand Prairie. The introduction of barbed wire in 1875 and its widespread use by 1885 made the open range a thing of the past by the 1890s. After 1900, prairie lands were used more for grazing than for crop production.

The economic turbulence of the two decades following 1900 was caused in part by the unstable cotton economy nationwide, combined with land forfeiture and repossession. After 1920, the availability of cheap farm labor brought a rise in tenant farming in the form of both cash cropping and sharecropping. By the mid-1930s, cotton was losing its importance as a cash crop in north-central Texas and farms were increasing in size. With increasing mechanization and the low price of land, many farms increased their land holdings and the total number of farms dropped. After 1935, the proportion of farmers sharecropping, tenant farming, or cash renting dropped dramatically. While war-related jobs and the oil industry provided temporary relief from the economic hardships of falling farm crop prices, this relief was only temporary. Employment in the cities was an economic alternative chosen by many people in the project area. Also, the three-county study area lost population and farmers converted to large-scale ranching/agribusiness, or left their farms because small farms were no longer

economically viable. As agriculture became more specialized, cattle and grain increased in importance. Cultivated land was gradually returned to pasture, and few farmers continued to cultivate crops after World War II.

V. RESEARCH DESIGN

Settlement Pattern Studies: Defining Change

A program of 100% surface survey and site recording, such as characterizes the initial phase of the research at Lake Ray Roberts, is almost universally recognized as yielding data with somewhat limited usefulness in regard to drawing reliable conclusions from it. This is particularly true when the site examination is largely limited to surface features. However, while site-specific information is limited in nature, such survey work does yield an important body of data relating to site size, location, physical relationship to the surrounding environment and to other archaeological sites, plus other types of information relating to an archaeological "region," as opposed to an individual archaeological "site." It is this regional perspective that historically has been the focus of settlement pattern studies or settlement archaeology.

The definitions applied to settlement archaeology over the years have varied in details and in area of emphasis, but they have all shown a high degree of consistency. They all seem to agree that the proper area of concern for settlement archaeology is the study of settlement patterns. In the first explicit study of settlement patterns, Gordon Willey (1953:1) defined the concept as referring to "the way in which man disposed himself over the landscape on which he lived." With this physical/geographical emphasis given to early settlement pattern studies, it was quite natural for settlement archaeology to take an ecological perspective. This view was formally stated by William Sanders (1956:115):

The study of settlement patterns is a study of the ecological and demographic aspects of culture. . . .Settlement pattern is, in effect, human ecology, since it is concerned with the distribution of population over the landscape and an investigation of the reasons behind that distribution.

By the end of the 1950s, settlement archaeology began to veer away from being primarily concerned with cultural ecology. The first step was taken by K. C. Chang (1958:299), who stated that he considered settlement archaeology to be the study of both "(1) Settlement pattern: the manner in which human settlements are arranged over the landscape in relation to physiographic environment. . . (and) (2) community pattern: the manner in which the inhabitants arrange their various structures within the community and their communities within the aggregate." This trend away from an ecological basis for settlement archaeology was elaborated upon by Bruce Trigger (1967:151):

Settlement Archaeology (is) the study of social relationships using archaeological data. This study includes an inquiry into both the synchronic, or structural, and diachronic, or developmental, aspects of these relationships.

By the 1970s, Dennis Puleston (1973:13,17) was able to define an expanded view of settlement archaeology as being the study of "the physical manifestations, spatial configurations, and articulation of human activity areas within a chosen time and space" and as a "sort of 'whole site archaeology'."

The first systematic application of the settlement pattern approach in archaeology was the pioneer study of Gordon Willey (1953) in the Viru Valley of Peru. This study showed a strong concern for the valley-wide settlement pattern: what Sanders later termed the "zonal" or "regional" pattern. Willey, however, used the term "community" pattern to

apply to the entire valley. This work by Willey foreshadowed a number of concerns which were to guide the development of settlement archaeology in general. These concerns can be classified into two sets of contrasting outlooks. The first was a concern with the natural environment as opposed to the social environment. The second was a concern with the local settlement pattern (the microsettlement pattern) versus the regional pattern (the macrosettlement pattern). Trigger (1967) defined three separate levels of settlement pattern analysis: (1) the household level, (2) the settlement or site level, and (3) the regional level. In general, analysis at the household and settlement levels have been equated with a theoretical concern with social interpretation, and analysis on the regional level with a concern for ecological problems.

The flurry of interest in settlement pattern studies, which followed Willey's work in the Viru Valley, included two seminars held on the subject: one a Viking Fund symposium on settlement patterns in the New World (Willey 1956), and the other an SAA seminar on community patterning (Beardsley et al. 1956). The Viking Fund symposium was largely data oriented and regional-specific, but the community patterning seminar was explicitly evolutionary in outlook and universalist in bias. The explicit purpose of this latter seminar was to attempt to develop a classification of culture based upon both archaeological and anthropological data.

Unfortunately, the major criterion used to develop this classification was that of "community mobility," with less than the hoped-for results. "Community" was defined in a sociological sense as being "the largest grouping of persons in any particular culture whose normal activities bind them together into a self-conscious, corporate unit, which is economically self-sufficient, and politically independent" (Beardsley et al. 1956:133). The unfortunate result of this was that the term was applied somewhat inconsistently to archaeological situations. In its simplest form, the "community" was considered to be equivalent to a single archaeological site, or "village." In contrast, at its most evolved form, the community was considered to be equivalent to the regional "state."

What Beardsley and his colleagues did achieve was an explicit recognition of several evolutionary trends in settlement pattern development. Their first and most basic evolutionary trend was from extreme community mobility to complete sedentariness, and was more of a theoretical model than an observed empirical reality. They went on to correlate increased sedentism with increased cultural complexity, when agriculture forms the major subsistence base. For pastoral societies, they suggested that the pattern was entirely different. Also, they correlated both of these changes with increased population size and density, although this was never stated explicitly.

One other evolutionary pattern was apparent in the patterns proposed by Beardsley and his colleagues: the tendency for settlement patterns to become more and more structured through developmental stages. Such structuring can be readily discerned archaeologically in factors such as site size, internal arrangement, location, artifact density, artifact assemblage, and others. Basically, this structuring is the material concomitant of an increasingly elaborate settlement system characterized by increasingly divergent site functions within a social community. These functional differences may be based on environmental exploitative differences associated with a single group moving their camp in a seasonal subsistence round, or with economic and political differences involving a regional capital, military centers, and centers of production and distribution of manufactured goods. The functional cause of the hierarchical settlement pattern is unimportant beyond its association with increasing cultural complexity. What is critical is its existence and its recognition as a characteristic of regional settlement pattern evolution.

Settlement Pattern Studies: Explaining Change

Most archaeologists today tend to view human culture as "an extrasomatic adaptive system that is employed in the integration of a society with its environment and with other sociocultural systems" (Binford 1965:204). The key concept in this definition is that human culture is an adaptation or an adaptive mechanism to both the natural and the social environment. However, since the archaeologist deals largely with a society's material remains, an archaeological "culture" may be said to be that aspect of a total socio-cultural system which is most responsive to the material environment. It cannot be overly stressed, however, that the natural environment in which a society exists is not the only factor that affects the form which that society assumes. As Binford points out, a society must adapt to a social as well as a natural environment. Nor is the natural environment the only factor which affects the material culture of a society. But it is this interface between material culture and the natural environment which is most readily recoverable and most easily comprehensible by the archaeologist. Therefore, the basic starting point for the analysis of cultural change must be the interface of a socio-cultural system with its natural environment.

The application of the view of culture as an adaptive mechanism has an important implication for the problem of explaining culture change and especially settlement change. This is simply that a society becomes progressively more "adapted" to its environment through time. This slow adaptation is the most basic type of cultural change. Biological evolution may be viewed as the progressive adaptation of an animal species to its natural environment. In the same way, cultural (or social) evolution may be viewed as the progressive adaptation of a society to its natural environment and to other socio-cultural systems. It is just such a process of environmental adaptation that has been used to explain changes observed in the archaeological record from the Early to the Late Archaic in central and east Texas (Grady 1978; Hall 1978).

In addition to this, it has become increasingly apparent that the environment itself has changed at various times over the past 15,000 to 20,000 years. As a result, the progressive change involved in adaptation to a stable environment has been consistently altered by changes in the environment itself. Finally, it should be kept in mind that the presence of other socio-cultural systems may have a dual effect on culture change. The presence of other systems may first be a direct cause of culture change; however, they also may act as an ameliorating influence on the effects of environmental change. They may, in fact, delay or even prevent major cultural changes which would otherwise result from an environmental change.

Cultural adaptation to a stable and to an unstable environment is modelled in Figure 5-1, using the relative rate of change as a measure of stability. When environmental change is minimal, or nonexistent, as shown in Figure 5-1a, a socio-cultural system becomes progressively more adapted to its environment. In this example, the "real" cultural pattern becomes progressively more similar to an "ideal" or "optimal" adaptive pattern. This "optimal" pattern may be viewed as that theoretical pattern which best "balances" the natural and social environment in which the society exists. The pattern of adaptive change has been modelled with a curve. This is in consideration of the assumption that the rate of cultural change at any point in time is proportional to the degree of deviation from the "optimal" adaptive pattern. In Figure 5-1b, the rate of culture change may fluctuate in response to changes in the environment and surrounding socio-cultural systems.

In an initial attempt to account for cultural change, we must have an understanding of the paleoenvironment, and the changes which occurred within it. It has been

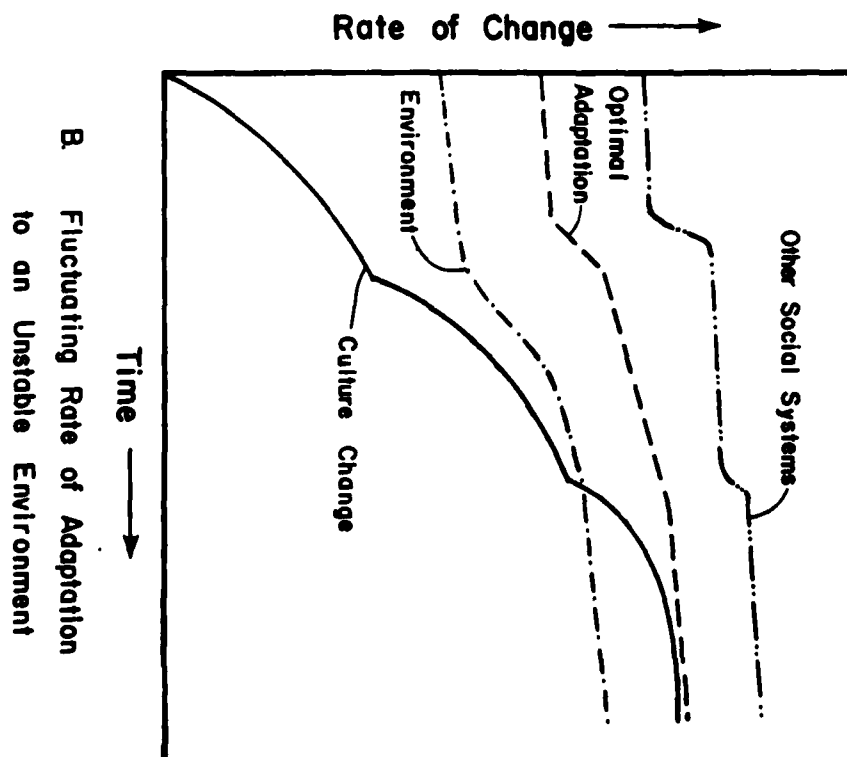
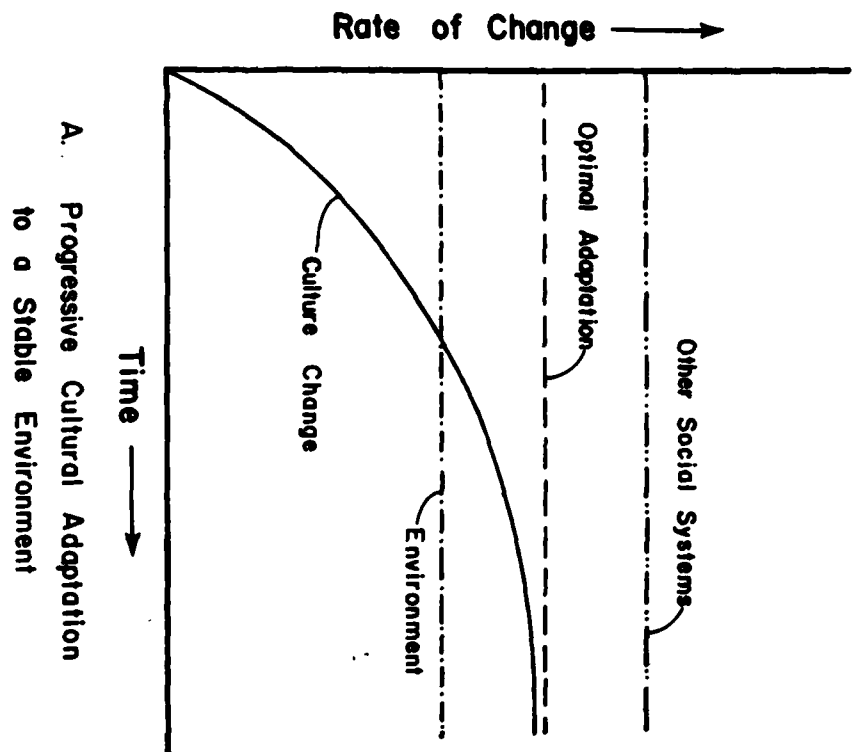


Figure 5-1. Graphs showing the relationship between rate of cultural change and environmental stability.

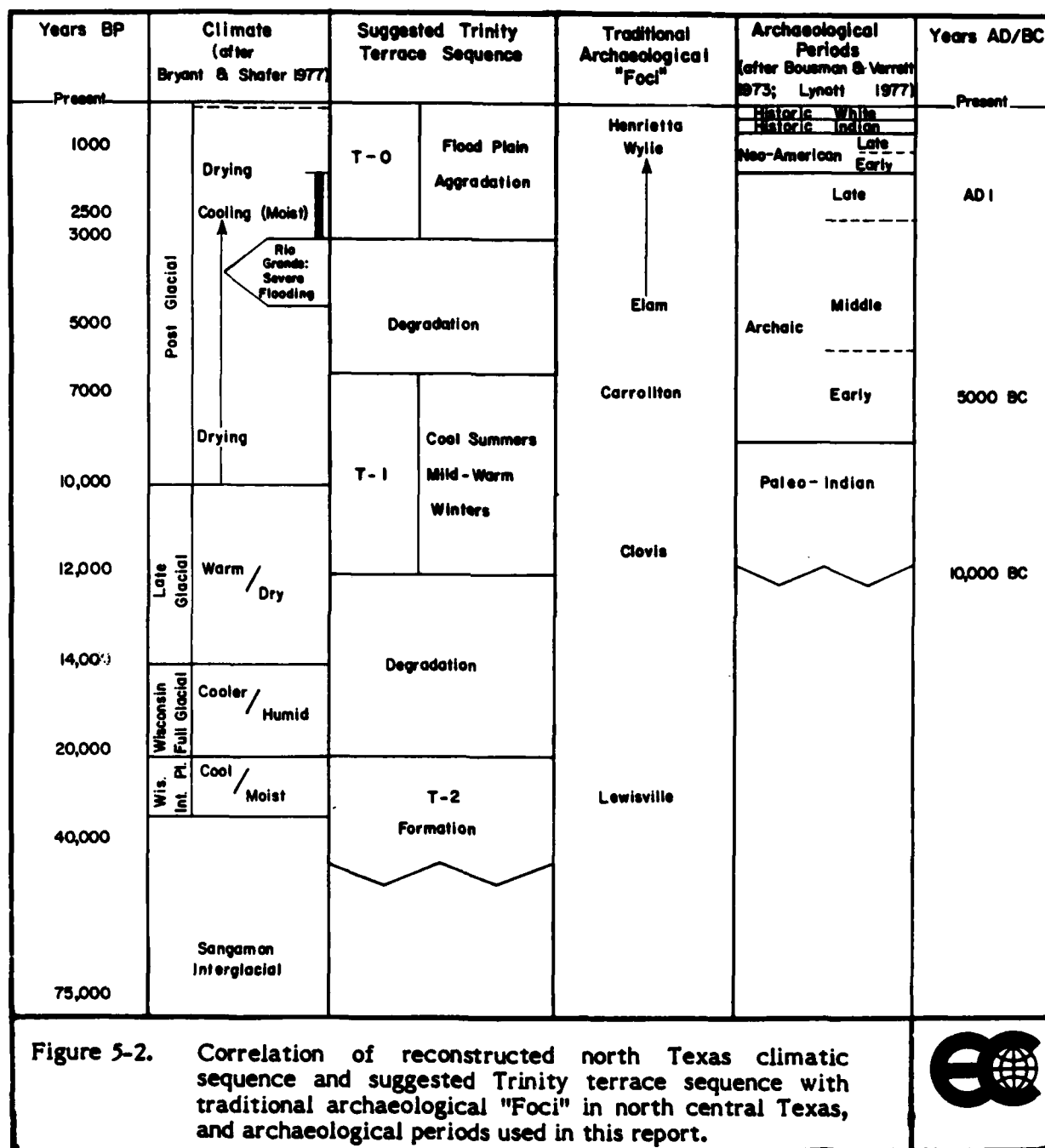


demonstrated in the past that environmental change did not always result in cultural change, but a knowledge of the paleoenvironmental setting of a society is essential for a basic understanding of its adaptive pattern.

Paleoenvironmental data relating to the Lake Ray Roberts area specifically are sparse. However, there is a great deal of geological and paleoenvironmental data that may be applied to Texas in general. Using this, an initial model of the paleoenvironmental sequence may be constructed. Figure 5-2 correlates a general paleoclimatic sequence for Texas (Bryant and Shafer 1977) with the terrace sequence for the Lake Ray Roberts area as suggested by Shanabrook (this volume) and the archaeological periods for the area.

Based on pollen studies, Bryant has reconstructed a sequence of paleoclimatic change for Texas over the past 30,000 years (Bryant and Shafer 1977:5). Of primary interest for the archaeology of the Lake Ray Roberts area, is the reconstruction of the Wisconsin full glacial environment as being cooler and more humid than today, with the beginning of a warming and drying trend in the Late Glacial period (ca. 12,000-8000 B.P.). This is basically in agreement with more detailed local paleoenvironmental work to the west (Johnson 1974; Wendorf and Hester 1975). Following the glacial period (after 8000 B.C.), Bryant sees a progressive drying trend which continued until the present time. Unfortunately, following 5000 B.C., the pollen records in central Texas are incomplete, and Bryant is unable to discern fine climatic fluctuations. Other evidence, however, indicates that such fluctuations did occur. The period between 2500 to 1200 B.C. was one of severe flooding along the Rio Grande (Bryant and Shafer 1977:16). Pollen from southwest Texas indicates a brief cooling period around A.D. 500. The period of the last 2,000 years is the weakest part of the paleoclimatic sequence because pollen consistently has been found to be poorly preserved in deposits dating to this period (1977:5). However, pollen recovered from the Cobb-Poole site, in the Lakeview Lake area southwest of Dallas, suggests a significantly wetter environment during the first millenium of the Christian era in comparison to today (Raab et al. 1980). It is likely that the change to modern conditions occurred during the late nineteenth to early twentieth centuries, based on studies of the relationship between surface vegetation and water regimes (Rechenthin and Smith 1967).

These data would all seem to indicate that in general the prehistoric and early historic environment was relatively stable, with only a slow rate of climatic change toward decreased effective moisture, from 8000 B.C. until ca. A.D. 1900. After 1900, surface vegetation changes resulted in a dramatic decrease in effective surface water which would have dried up a great number of small streams and springs in the area. A potential period of cooler climate and higher effective moisture may have occurred around 500 B.C., based on evidence elsewhere. Theoretically, this climatic regime should have affected local socio-cultural systems to produce initial "rapid" change in the Early Archaic which slowed with a successful local-environmental adaptation during the Middle Archaic and Late Archaic. The cooler period around A.D. 500 may have been too short to have produced any distinguishable change. However, the increased moisture may have been associated with the spread of agriculture and the beginning of the Neo-American period elsewhere. Theoretically, local climatic conditions would have had no direct effect on the numerous changes which occurred from 1600 to 1900, but the increased rate of aridity within the last 100 years would almost certainly show effects in regard to population and subsistence patterns. As a general prediction, the period around A.D. 1900 should have witnessed a loss of population within the area and changes in overall subsistence patterns from techniques dependent upon widespread, locally available water sources to those dependent upon more reliable, localized, or extra-areal water sources.



Modelling Settlement Change In North-Central Texas

The following model of prehistoric and historic development within the north-central Texas area was developed prior to the commencement of fieldwork at Lake Ray Roberts. It is actually a series of synchronic models for each of the prehistoric and historic periods presented in the previous chapter, linked together within the model of local culture change presented above. The specific regional models developed here combined existing archaeological data prior to fieldwork at Lake Ray Roberts with an explicitly economically-deterministic bias. Based on these data, there appear to be two overwhelming "realities" in dealing with the prehistoric archaeology of north-central Texas. First, the prehistoric social groups in the region developed largely in situ. Second, the evolutionary development of the area prehistorically was consistently linked to its value as a resource-area for other regions. The models themselves were not totally explanatory, although they depended on observed cultural regularities for their utility. However, they were explanatory to the degree that regional patterns within north-central Texas were recognized as determining local patterns of resource utilization and habitation within the study area.

It has already been pointed out that these models for north-central Texas are essentially economic. They were based upon two assumptions in regard to human behavior. The first of these was that human groups consciously choose what resources to extract from among those available within their immediate environment. The second assumption was that this choice is based on the manner in which they relate to other human groups. Thus, the local prehistoric patterns in the Lake Ray Roberts area, for example, were firstly the result of the localized-environmental effects. However, they also were the result of socio-economic needs generated by the wider regional patterns for north-central Texas. These regional patterns for north-central Texas were, in turn, generated by socio-economic relationships to other surrounding areas, such as central and east Texas.

The ensuing paragraphs are capsulizations of the hypothesized temporal stages of the regional model developed prior to the beginning of fieldwork. Based on reconnaissance data, each period was known to be present within the study area, or nearby.

Paleo-Indian Period (ca. 9500-6000 B.C.)

While not identified within the project area, it was hypothesized on the basis of excavated and collected materials elsewhere that evidence of this period would be found. Although it is clear from the previous chapter that good data relative to the Paleo-Indian period are rare in north-central Texas, it was felt worthwhile to develop a general model for Paleo-Indian utilization of the area which could then hopefully be tested against data from the Lake Ray Roberts area. A basic question relative to the Paleo-Indian period is how closely linked are the Paleo-Indian remains in north-central Texas to those of the Southern Plains. Shafer (1977) suggests that the late Paleo-Indian period (ca. 8000-6000 B.C.) in central and east-central Texas was characterized by a hunting and gathering adaptation which was essentially Archaic in nature, and was not dependent upon the hunting of megafauna as was the case for the late Paleo-Indian Plano complexes on the Great Plains (Wheat 1971).

Remains of the early part of the Paleo-Indian period consisting of the Plano and Folsom complexes, characterized by Clovis and Folsom points respectively (ca. 10,000-8000 B.C.), hint at closer ties to the Southern Plains. If Lewisville turns out to be a Clovis site, it would appear to represent a seasonally occupied base camp, utilized by a small social group. Crook and Harris (1958:245) suggest that this occupation was in the fall,

based on the large number of hackberry seeds present. Beyond this, the great diversity of faunal material present suggests a wide-spectrum collecting pattern, while the presence of large numbers of turtles and small animals (Crook and Harris 1957:17) plus elements of megafauna which are generally considered to be of minimal food value (i.e., teeth, skull, and jaw fragments, hooves, and some limb bones) suggests more of a "scavenging" strategy. This suggests the possibility that Lewisville was a fall to winter camp, with a spring and summer camp elsewhere, possibly on the Southern Plains. The Clovis kill site of Domebo in west-central Oklahoma to the northwest of the Lake Ray Roberts area may be such a site (Leonhardy 1966). This is a single mammoth kill site, at which were found only a few artifacts, all but one of which were made of Edwards Plateau chert possibly from the area of Round Rock, Texas (Leonhardy 1966:18). It is impossible to say how many people were involved in the Domebo kill, but group-size estimates from later kill sites suggest that it was larger than a single small band of hunters (Wheat 1971:28).

It is suggested that the early part of the Paleo-Indian period (ca. 10,000-8000 B.C.) was characterized by a seasonal pattern of migration of small egalitarian bands from the Southern Plains into north-central and central Texas. Such movements may have been from west to east along river valleys such as the Trinity, Brazos, and Colorado, or it may have been from north to south along ecotonal boundaries between woodland or parkland to the east and savanna to the west (for a paleoenvironmental model of Texas 10,000-6000 B.C., see Shafer 1977: Figure 2). Either one or both of these patterns of migration may have been in effect at varying times during the Paleo-Indian period.

During the later part of the Paleo-Indian period (ca. 8000-6000 B.C.), Shafer's model of an Archaic-type subsistence strategy seemed to fit best with what data there was from north-central Texas. First, no sites attributable to the later Plains Paleo-Indian groups (Hell Gap, Alberta, Cody, Frederick, or Lusk) have been found in central or north-central Texas (Irwin 1971). However, projectile point similarities between central Texas and the Great Plains hint at some type of interaction between the two. A second point is that at several sites, Paleo-Indian point forms occur with Early Archaic forms, suggesting a temporal overlap of the early Paleo-Indian forms with Early Archaic forms.

In general, this period is suggested to have been characterized by egalitarian, territorial bands throughout its entire length. During the early part of the Paleo-Indian period, these groups may have formed macrobands for the hunting of big-game animals in the spring and summer. In the fall, these groups probably split into microbands and moved down into north-central Texas, possibly along river valleys such as the Trinity, which drain the Southern Plains. Archaeological remains should consist of small, seasonally occupied campsites. These were originally situated at the interface of the prairie uplands and the river floodplain.

In the latter part of the Paleo-Indian period, occupation within the north-central Texas area may have been on a more permanent basis, although a seasonal subsistence pattern requiring shifting site location still would have been the basic pattern within the area. The pattern of subsistence adaptation was basically Archaic in nature, although technology and group structure probably did not change. The reason for this change may have been linked to a number of factors, including increasing population of plains hunting groups (leading to increased competition), the beginning of the pattern of Late Pleistocene megafaunal extinctions, and an increased awareness of the potential of year-round adaptation to the north-central Texas area.

Archaic Period (ca. 6000 B.C. - A.D. 600)

It was suggested prior to fieldwork that the regional and local pattern of the Early Archaic was the same as that for the Paleo-Indian period before it. Remains in the study area were hypothesized to consist of small campsites left by microbands which occupied the study area permanently. These groups may have been engaged in a seasonal round of subsistence activities and left no large base camps. Another possibility is that the settlement system may have consisted of a series of seasonal campsites associated with special-function sites. McCormick (1976:44) notes that some seasonal campsites occur on the lower terraces along creeks or rivers at points where they intersect with secondary drainages. However, it was expected that other seasonal campsites would be located closer to the river and may have been buried in the floodplain. Special-function sites may have consisted largely of small hunting camps along small drainages in the Grand Prairie or Cross Timbers areas. Because central Texas chert was used predominantly during the Early Archaic (Crook and Harris 1954), it was not expected that any quarry sites would be identified.

It was hypothesized that an increased pattern of micro-adaptation to the study area during the Middle Archaic phase resulted in a slight increase of population. Changes in the extractive patterns within the region may have accompanied the foundation of semi-sedentary macrobands based within the study area. These groups might have been based at large semi-permanent villages on the lower terraces above the river. It was hypothesized that smaller, more limited-occupation campsites and special-function sites were situated on the surrounding terraces, on the floodplain and in the uplands.

A high proportion of non-local raw material in the artifact assemblages and wide-spread projectile-point style relationships suggested that this period was one of cultural interaction. This interaction was probably in the form of trade and exchange. The groups inhabiting the study area may have been engaged in seasonally-intensive bison-hunting and were exchanging processed "bison-products" for materials from east and central Texas. One such material may have been Edwards Plateau chert. As a result of this interaction, it was hypothesized that special-function artifacts such as the "Carrollton axe" and the "Waco netsinker" were part of a material "symbol system" which tied together those involved in the trade network. It was suggested that this symbol system was linked to the interregional exchange network and may have functioned to define individual roles within the network. This network and symbol-system also may have been tied to an emerging system of ranking within the study area. Essentially, those individuals in a position to obtain desirable goods through the exchange network would have been able to accumulate "wealth" items, and exchange these items for services and promises of service from other members of the social group. These incipient "Big Men" would then have been able to organize larger bison hunting expeditions or trading excursions and accumulate more "wealth."

Subsistence activities may have consisted of continued seasonal hunting, although the pattern had changed to allow large organized hunts from base camps in the Elm Fork basin. These may have been conducted during the winter season. Beyond this, it is possible that small-game hunting and collecting within the study area intensified, and that fishing and mussel collecting in the Elm Fork and Isle du Bois Creek were initiated. This increased subsistence intensification might have been necessitated by the existence of larger population aggregates within the study area. In addition, the increased capacity for organization and information flow made possible by such incipient ranking would possibly have increased the likelihood of successful activity-scheduling from year to year, and decreased the effect of minor environmental perturbations on diet.

Settlement patterns during this period were hypothesized to have remained similar to those of the Early Archaic, with the exception that large semi-permanent to permanent base camps may have been located on the lower terraces where secondary drainages entered the floodplains of the larger creeks and rivers. Seasonal campsites and special-activity sites may have continued to be located on the terraces and floodplains, and on the uplands, respectively. In addition to hunting camps, special activity sites may have included fishing and musselling stations.

It was hypothesized that the Late Archaic phase was one of cultural regionalism within the Upper Trinity area. It was accompanied by a breakdown of the earlier patterns of interregional contact, and the end of earlier patterns of ranking. Increasing population in central Texas may have placed demands for "trade products" on groups in north-central Texas which existing patterns of labor-utilization and control could not meet. When the local system of social organization could not be altered, existing patterns of interregional exchange may have broken down.

This regional change may have been mirrored in the study area by a slight population decline. At the very least, this change was accompanied by a readjustment in population distribution. This lessening of interregional exchange also may have resulted in decreased bison hunting and a more intensive utilization of purely local resources. Community size may have decreased, and population may have become spread more evenly across the study area.

The Late Archaic is reportedly distinguishable by the predominant usage of local lithic raw materials (Crook and Harris 1954), presumably consisting of local river terrace quartzites. The latter part of this phase may have seen a resurgence of regional contact with central Texas, exhibited by the presence of exotic point styles such as Ensor and Darl. A smaller version of the Ellis point, the Elam style, may have become popular during the latter half of this phase and may represent the introduction of a new hunting technology in the form of the bow and arrow.

It may be possible that the introduction of the bow and arrow was linked to an increase in individual hunting efficiency. Apart from this hypothesized technological change the subsistence and settlement pattern was believed to have been extremely stable throughout the Late Archaic phase. Population may have showed a slow rate of growth throughout the Late Archaic phase in the project area.

Settlement pattern during this phase was believed to mark a general return to the Early Archaic pattern of seasonal campsites accompanied by special activity sites. McCormick (1976:44) has noted that Elam focus sites (characteristic of the Late Archaic) tend to be located in identical areas as the earlier Carrollton focus sites. Seasonal campsites continued to be located on the first terraces and the floodplains, hunting camps were along small drainages on the uplands, and fishing and musselling stations were on the floodplains next to the larger creeks and rivers.

Neo-American Period (ca. A.D. 600-1600)

Prior to commencing fieldwork, it was suggested that the Late Archaic complex continued relatively unchanged until the introduction of pottery and the smaller point styles indicative of the Early Neo-American phase. These new traits probably reached north-central Texas as a result of either stimulus diffusion, in the case of small points associated with the bow-and-arrow, or by direct exchange (or trade), in the case of pottery. These traits probably entered the area at different times, with the use of the bow-and-arrow coming in during the Late Archaic, and trade pottery coming in during

the Early Neo-American. The third trait of the complete Neo-American complex, that of agriculture, may not have been diffused into north-central Texas until the Late Neo-American period.

The quality of the data make it impossible to do more than guess at the nature of the Early Neo-American occupation in the Lake Ray Roberts area. However, the nature of the traits being introduced and the continued occupation of Late Archaic sites suggest that not a great deal of change occurred from the Late Archaic to the Early Neo-American. The introduction of the bow-and-arrow technology may have made individual hunting of densely thicketed bottomlands and the heavily forested Cross Timbers area more efficient. Likewise, the addition of pottery to the cultural inventory possibly improved both storage capacity and cooking efficiency. All of these changes--improved hunting efficiency, improved cooking efficiency, and greater storage capacity--would generally have improved the prehistoric diet and contributed to an overall increase in birth rate and a decrease in death rate related to child mortality. While these changes would have been slight, they may have been sufficient to produce a "population explosion" over the 600 years of the Early Neo-American phase.

The use of the term "explosion" for the hypothetical population increase during this phase is probably a poor choice, but a potential population increase during the Early Neo-American phase may have been linked to developments during the subsequent Late Neo-American phase. By A.D. 1200, population pressure may have begun to tax the existing subsistence base of the people dwelling in north-central Texas. Their continuing contact with groups to the east and south may have made them aware of alternative subsistence patterns and, by A.D. 1200, a shift to partially agricultural-based settled villages may have begun to occur. At the same time, a local pottery tradition of shell-tempered plainwares apparently developed (Nocona Plain). Again, this may have been linked to an improving storage technology.

Dillehay (1974:184-185) suggests that environmental changes occurring around A.D. 1350-1400 forced Oklahoma and east Texas agriculturalists to reorient their subsistence patterns toward seasonal bison hunting. While there is little evidence for such a change in Texas, it has already been noted that there are few reliable paleoenvironmental data for the last 2000 years in general. If Dillehay is right, then, agriculture would barely have become adopted in north-central Texas, before it would have been partially displaced by the more traditional bison hunting pattern. This hypothesis seems to agree with the apparently tenuous nature of agriculture in this area right up to the historic period.

Historic Indian - Wichita (ca. 1600-1800)

Although the data relevant to the Historic Indian period in the Lake Ray Roberts area are extremely limited, it was hypothesized prior to the commencement of fieldwork that the lake area may have acted as a refuge zone for Henrietta focus populations driven south by lack of water during the hypothetical drought period from 1400 to 1500. It was believed likely that these groups would have retained an artifactual assemblage characteristic of the Henrietta focus until they were reunited with Wichita groups returning to the Plains around A.D. 1600 to 1700.

Historic Settlement

The goals of settlement research for the historic periods are considerably different than for the prehistoric periods, because of the increased importance of cultural rather than environmental factors. The research design described in the preceding section can

and will be applied to the material culture evidence of the historic periods in order to explore the dynamics of environmental adaptation. Additional research strategies should be developed, however, that allow for the incorporation of information available from non-material remains.

Even on the frontier subsistence level, historic settlement may be considered to have been virtually freed from environmental constraints in all but the most inhospitable of environments (such as on the High Plains or in the desert). The technology the settlers brought with them included implements for clearing, breaking, and cultivating land and for constructing sophisticated structures to house themselves and their stock. The ability to dig wells also allowed them some freedom of choice about where to establish themselves on the land.

Therefore, the primary concern in dealing with settlement pattern, economic development, and social change through time is to add to our knowledge of how cultural knowledge and cultural value systems were diffused to new areas, how they were behaviorally manifested in the creation of artifacts, and why and how adaptation in individual behavior and cultural systems occurred. Connecting these broader questions to material culture remains is challenging, because the rate of cultural change was so great that the discernably different periods of development can be broken down into decades rather than centuries, as is the case in prehistoric archaeology. These finer distinctions are reflected in the material culture of the historic periods, but often the influences are subtle, or dissynchronous on an individual level. The matter is further complicated by the fact that frontier areas were spatially isolated and yet were closely tied to changes taking place on a regional and national level (Steffen 1980; Spence 1980). The Civil War, for instance, affected life everywhere in the United States to some degree, but in Texas its effect at the local level depended on the stage of settlement or development of the community, the nature of the agricultural economy, and the attitudes of the local populace (for instance, see Skinner et al. 1981). Another example of regional change is the arrival of a railroad in the locality, a structure imposed from without that brought predictable economic and social changes and reorganized early settlement systems and material culture patterns.

A curious schism is evident in the existing literature. Much is known and has been written about the broad outlines of American state and national history; a great deal is known or postulated about cultural systems and reasons for individual behavior in both the physiological and psychological realms. To date, however, this information has not generally been used to explain historic behavior, either in terms of local craftsmen or in terms of neighborhood evolution, growth, and decline, or theoretically in terms of spatial pattern. There are notable exceptions of course (Jones 1975; Jordan 1978; Newton and Pulliam-di Napoli 1977; Glassie 1968), but on the whole little work has been done in this area. In addition, none of this work to date has focused on the dynamics of historic settlement and development in Texas, even though Texas history has been molded by the interactions of its various culture groups and its unique role in national growth and development.

Modelling historical development, then, is useful in that it provides an explanatory outline of the social, cultural, and historical forces at work. Since the broad outlines of regional historical development are known, it remains to compare them with the patterns of local development, and to determine what variables were most important in the creation of the material culture patterns observable today. Obviously the latter goal is a bit high-flown in light of the limitations of cultural resources management planning studies, but it nonetheless provides a systematic base from which to identify specific research goals. Too often, where historical research has been

conducted as a part of cultural resource management areal studies, the result has been a catalog of buildings and other historic artifacts and a series of narrative site histories, both without reference to either the individual behavioral processes that caused the selection and construction of those artifacts, the cultural system that the individuals were a part of, or the role of these sites in contributing to knowledge of regional and local historical development. Although it is not possible to consider all aspects of material culture production and use, given the size and complexity of the current project area, the following literature is helpful in identifying current research problems that can best be explored in this study.

Prince (1971), in a masterful article, discusses historical reconstruction as being of three different modes: real worlds of the past, imagined worlds of the past, and abstract worlds of the past. As a part of real world approaches, he identifies past geographies, including static cross sections, reconstructions, and narratives of change; geographical change, including sequent occupance, evolutionary change, and the frontier hypothesis; and processes of change, where he deals briefly with the dynamics of change and the inadequacy of inductivism. In imagined worlds of the past, he discusses the problems and benefits of attempting to reconstruct landscapes from the perceptual viewpoint of the historical participants, and working with the value orientations imposed on landscape culturally both in the past and in the present. In abstract worlds of the past, he discusses spatial modelling as it applies to the problems faced by historical geographers, as patterns of spatial interaction, deterministic models of process, and probabilistic models of process.

The quantitative/qualitative discussion of "what to study" has raged in history and geography since at least the early 1960s. Harris (1971:162-163) states that the role of historical geography is synthesis rather than analysis. He defends this position by stressing that good description has its place. He writes "As long as the historian attempts to understand the character of particular peoples and events in their fulness and complexity his is a distinctive task of great intrinsic interest." Both geography and history, he says, are "synthesizing fields concerned primarily with the particular. An historical synthesis is usually built around such concepts as event, society, or period; a geographical synthesis around such concepts as region, landscape, or place. Between the two there is considerable overlap." Further, he says that synthesis is in fact a valid explanatory technique, in that it attempts "to find a coherent path through the endlessly complex welter of interrelated facts . . . and to offer an explanation that is plausible and full."

Baker (1972:13), on the other hand, points out that the validity of reconstructing past geographies, "especially as a method of studying geographical change, is being fundamentally questioned." Baker characterizes narrative methods as "loose, weakly explanatory, non-rigorous modes of temporal explanation." However, particularly in the case of relating behavior to architecture, quantitative approaches have not to date notably contributed to our knowledge of why landscapes have evolved in certain regions as they did throughout all the historic periods. Perhaps, as Wagner (1974:142) points out, "the most elusive, yet one of the most essential, features of landscape is that peerless declaration of individuality and integrity, style. The term defies exact verbal definition, but we all know it as an overwhelmingly vital property of individuals, artifacts, and places. We may rest our hopes for understanding behavioral cues upon our sense of order only until we stumble onto style, for style escapes from order. Yet the cultivation of expressive personal style is very likely far more nearly central to the human use of landscape and to life than is any more mundane and reasonable research for a cozy, safe adjustment with material environment. Perhaps like so many things whereof we cannot speak, style must simply be confronted and contemplated. And the

mere experience of style may yet yield more of understanding of the world and of ourselves than all our principles. Still, we wish to grasp it in our discipline as best we can."

Tuan (1972) points out that functionalism, structuralism, existentialism, and environmental perception studies are all useful in explaining behavior, and cautions that using only one viewpoint provides only part of the explanation.

Unfortunately, most landscape geographers are in the dismaying position of having to collect in the field all the architectural, archaeological, and primary and secondary historical data they would like to work with. Once their information is collected, they find little systematic comparative data from which to compare occurrences, define regions, reconstruct landscapes, or in fact proceed through any of the most elementary steps toward discussing cultural process and culture change. Therefore, they tend to be defensive about "microcosmic" studies, feeling that they are unfairly compared to areal geographic studies of the 1950s when they do in fact bring more sophisticated analytical tools to the task.

Thankfully, lack of comparative data is becoming less of a problem, in part because of the increasing role of cultural resources management in landscape documentation. The minimal variables to be recorded are fairly well agreed upon, as may be seen in the landscape evolution section following and in the architectural type analysis in Chapter VII. The traditional questions asked of landscape are also fairly explicit in the literature (Kniffen 1965; Glassie 1968; Collier 1979). For example, along what paths did folk material culture traits diffuse? How did a given region's landscape change through time? How was information from the popular culture incorporated into established folkways, and further, under what conditions and in what time frame was the transition made from a folkways-dominated culture system to a system dominated by the diffusion of homogenous information?

Berkhofer, a behavioral historian, poses five questions that may be fruitfully asked when intensively documenting and analyzing past landscapes, and Baker (1972:16) suggests that the addition of "where" questions would easily encompass the spatial dimensions of culture change as well. These five questions are as follows:

1. The delimitation of the sequence--when did it start? (Where did it start?);
2. The order of the sequence in relation to time--what followed what? (The order of the sequence in relation to space--what was placed where?);
3. The order of the occurrence--why did it happen in that way? (Why did it happen where it did?);
4. The timing of the sequence--why did it occur when it did? Why did not something else occur? (Why did it occur where it did? Why did it not occur somewhere else?) These questions help to establish the sufficient as well as the necessary conditions for the sequences; and
5. The rate of change--how long did the entire sequence take? Were certain elements of it faster or slower than others? How widespread was the sequence? Were certain places more or less responsive to temporal change?

The emphasis of the historical section of this study is on material culture pattern, considered necessarily at a neighborhood and project-area level. The five questions,

outlined above, will be asked in regard to evolving settlement systems and landscape evolution, and of those individual architectural and archaeological patterns identified based on the information available from field survey and research. First, however, it may be useful to review briefly the prior literature on the built landscape, especially in terms of the various components that make up a built landscape.

Landscape Evolution

The evolution of landscape in a frontier area may be modelled as occurring in four phases separated by the materials used (the influence of the natural environment) and the plan and style selected (the influence of culture). Unlike the economic model of historical regional development, the temporal divisions assigned do not arise naturally for a given locality. The transition from folk building practices and traditions to vernacular, or popular culture, modes of building and planning is a gradual one that often doubles back on itself, or runs concurrently for a period of time, even in a small area. This is because the decision to build a structure involves the creation of a single artifact (as discussed below) and the structural decisions involved in the creation of that artifact are the result of the idiosyncratic personal preferences of the owner/builder. Since the sample of buildings extant from any one period is skewed in favor of more recent structures, it is difficult to reconstruct precisely the look of the land at any given time, and, therefore, all but impossible to state conclusively what styles were most prevalent during the earliest periods.

Nonetheless, the evolution of landscape in the Lake Ray Roberts project area, as elsewhere in the United States, may be discussed as occurring in four distinct phases:

1. Log building, using traditional methods of construction and hand-hewn logs or planks, and traditional (cognitive) plans; the owner is almost always involved in the construction of the building during this phase;
2. Early frame building, encompassing both folk and vernacular styles and construction techniques and including the Victorian and Revival styles; log building continues to be popular during this period;
3. Twentieth century frame building, including folk, vernacular, and early plan-book styles, using some finished lumber from local sources; and
4. Bungalows and post-1930s plan-book houses, using milled lumber, and a preponderance of shiplap and tongue-and-groove siding for exterior finishes.

Baird and Shaddox (1981:4,6) distinguish between folk and vernacular building as follows:

Folk architecture is generally defined as having traditional construction techniques. A folk house is built by someone who carries a cognitive (learned) model of the way houses should look when finished; the construction techniques for such a house have been taught to him by a neighbor or a parent. In most folk construction the owner is also the builder. Glassie says that 'during the time of the construction of a folk object, the tradition out of which it is produced' cannot be part of the popular (mass, normative) or academic (elite, progressive) cultures of the greater society with which the object's maker has had contact, and as a member of which he may function' (Glassie 1968:5).

Vernacular architecture, in contrast, reflects temporal rather than spatial variations. Vernacular building includes the whole middle range that is neither folk or high-style. The buildings are usually (but not always) built by a professional builder and may contain some folk or academic elements or may be entirely popular, as in 'pian-book' or tract (development) housing. Vernacular building in the early twentieth century is idiosyncratic, borrowing at will from all available sources for ideas and using mostly finished or manufactured building materials.

Generally speaking, nine factors influence the selection of design and size of a folk or vernacular building: the cultural background, social class (including degree of wealth), and personality of the owner of the building, its intended function, the socio-cultural traditions associated in the community or society with the building's function, the age of the community, the availability and sophistication of building materials, the building technology, and the natural environment in which the building is to be built. Therefore, patterns in the landscape should be viewed as the cumulative effect of individual design decisions.

The present built environment provides visible patterns on the landscape that can be defined as geographic-culture regions. Responses of past and present residents to the physical and cultural influences of an area can be seen in these patterns. Serving as an index which is both historical and spatial, these patterns give a sense of time and of place.

While investigations of the cultural landscape must begin with considerations of what, when, and where, the question of why is perhaps the key to meaningful interpretation (Lewis 1979). Determining the way a built landscape evolved in a certain manner involves careful attention to problems of folkways, antecedents, and cultural diffusion. Often there is an interaction of ideas and attitudes which link these considerations; however, why addresses the question of relationships between all factors.

Culturo-geographic regions are usually influenced to some degree by adjacent regions. Unless barriers, either political or physical, are present (Jordan 1973), a zone of transition can be expected between "pure" regions in which there is a co-existence, mixing, or blending of culturally transmitted landscape elements. However, in some instances on the western frontier, distant rather than adjacent regions exerted the strongest influences because of "leap-frogging" migration patterns.

While American migration onto the frontier can be viewed as successive waves of people moving progressively further westward, tracing migration by families reveals another aspect of the migratory movement. From the early nineteenth century onward, sons of eastern and southern farmers settled on the western frontier with their young families. As new areas were opened to settlement, repeated movement of the pioneers exhibited a staggered migration pattern as each new generation of a family sought new opportunities at the edge of the current frontier.

This was true of many of the settlers who came to the north-central Texas region. Therefore, in order to discuss the built landscape of this area based on survey information, it is necessary to first review the pattern of migration and cultural diffusion involved in the early settlement of the United States (Glassie 1968). The landscape of the coastal United States and points westward provided prototypes for those recreating familiar landscapes in their new home states in the late 1700s to early 1800s. Prior to that time, the Atlantic seaboard had developed three distinct cultures, which differed because of their varied cultural heritages and in response to the

economic necessities surviving in a new and unfamiliar environment. The first, the New England culture region, was settled primarily by the English. These settlers had little success in farming and turned to commercial endeavors, such as manufacturing, trading, lumbering, and fishing. European immigrants of more varied backgrounds came to the second hearth area, the Middle Atlantic (Jordan and Rowntree 1979; Collier 1979). Some English, Welsh, and Swedish colonists were joined by large numbers of Scotch-Irish and Germans, who settled in southeastern Pennsylvania. Sharing a high regard for hard work and frugality, these latter two groups experienced a "mutual borrowing and meshing of cultural elements" (Glassie 1963:6). The traditional music, folktales, and folk architecture of the Scotch-Irish and Germans were blended in this area to produce a distinctive new subculture, clearly reflected in its landscape.

The third culture region, found in the Lower South, was characterized by English landowners and African slaves involved in a plantation economy, and was based on labor-intensive tobacco cultivation. This system spread from Virginia through the coastal plains of the southern states. Scattered among the large plantations were smaller plots farmed by English yeomen farmers cultivating small subsistence-level farms worked by themselves and their families.

Early migration westward from these three source areas resulted in culturally varied landscapes. The boundaries of these culture regions indicate transition, mixing, or blending of architectural forms and features. Each general area naturally has within it smaller "subculture" zones with distinctive traits. These traits mapped separately would each result in a slightly different region, so that a "culture complex" map, containing several traits, is necessarily somewhat generalized.

Thus, the several maps that depict these zones in the United States (Glassie 1968; Kniffen 1965; Collier 1979; Jordan and Rowntree 1979) are discernably different; however, the discrepancies are less worthy of attention than is the fact that the overall pattern of seaboard hearth areas, western expansion, and the general migration routes is commonly agreed upon. The New England influence began on the eastern coast and spread westward across the northern portions of Pennsylvania, Ohio, Indiana, and Illinois. Just south of this region, the Middle Atlantic zone extended westward, with subdivisions into the Midwest and the Upper South. Beginning in the Tidewater of Virginia, and including the coastal region of the southern states, is the Lower South cultural area.

The Upper South and the Lower South migration streams extended into Texas; not only did these regions serve as major immigration source area for early Texas settlers, but immigration routes into Texas from most other areas crossed through these states (Meinig 1979). Later settlement by members of various European ethnic groups also contributed to the cultural stock of the state.

In Texas, rural immigrants occupied the land in scattered and semi-clustered settlement patterns (Jordan 1973). Along rural, irregularly spaced roads, farmsteads were constructed. Sometimes a crossroads would be the site of a church, and perhaps a small store. These crossroads communities might gradually grow until they contained 15 to 20 houses, a school, a church with a cemetery, and a blacksmith shop, along with the general store. The likelihood of a store in any given location depended on factors of population and of distance. A day's journey, including the trip to and from town and time to shop, dictated a distance of some 6 or 7 mi between rural supply centers (Hart 1976).

Hart (1976) states that farmstead dwellings and various outbuildings were placed in no particular relationship to each other, in accordance with southern custom. Others' research findings, particularly those of Glassie (1975), Weaver and Doster (n.d.) suggest that at least some generalized patterning may be present. Glassie (1975:144) says that "the old farm had two centers, the house and the barn, around which smaller dependencies were dropped. Beside the house are the outbuildings needed by the woman in order to get food on the table; beside the barn are the outbuildings needed by the man to keep the cattle fat." Wilson found the same activity separation reflected in the spatial patterning of outbuildings, and notes in addition that houses generally face the road with outbuildings to the rear.

In these rural centers, as well as on the farmsteads in the countryside, the kinds of houses found are an important element in defining the historic cultural environment (Glassie 1968). Houses and other buildings are indicative of patterns of cultural diffusion and adaptation.

House Types

Several types of houses can be discussed with regard to time and spatial distribution. Each type has many variations, and their characteristic sometimes overlap. However, plan selection is the best index to the cultural origin of the builder, while types and methods of construction provide additional clues to the builders' cultural background, and yield information about adaptation to the natural resources of a new physical environment.

One of the earliest of these house plans was the single pen dwelling. The resulting cabin (or house) was a simple rectangular or square room, usually with one entrance, one window, and a chimney on a gable end. Sometimes a steep gable with a loft was chosen, and perhaps (later in time), a porch was added or built. The single pen was made of logs, variously notched, or less often, of rough frame. In the Upper South, with its mixed European heritage, the single pen was commonly of logs, while the early settlement of the English on the seaboard was typically of clapboard construction. The presence of the Lower Southern single pen as a relic in the present landscape is usually associated with slavery or poverty. Antecedents of this simple house type can be traced to Britain, Germany, Africa, and the West Indies (Kniffen and Glassie 1966; Collier 1979; Jordan and Rowntree 1979).

Another early house type, seen in many variations, is the double pen dwelling. One of these variations, the Cumberland, is found typically in Tennessee (Riedle et al. 1976) and on migration routes westward. This house has a front door in each of the pens, and a side-facing gable. It may be one story or have a loft, may have one or two chimneys, and usually has a front porch with a shed roof. The kitchen may be in back of the house, as a detached building, or attached as a shed room, having a "catslide" roof. The chimneys may be interior or exterior, but are at the ends of the house. Sometimes, with the exterior chimney, a hooded effect, forming a protection for the chimney, is seen. This is more likely the case when the chimney was constructed of branches with clay or mud, called "catting" or "cat nogging." This mortaring technique was common in regions of both the Upper South and the Lower South (Collier 1979; Jordan 1978).

Another version of the double pen dwelling in which the pens are symmetrical is the "saddlebag" house. This house plan has two rooms with a central chimney and a side facing gable. Placement of doors and windows may vary, but usually they have a separate front entrance for each pen, and a back door directly opposed in each pen. Porches are of the shed roof type, and may be built on the front or on both the front

and back of the house. The "saddlebag" house is a Middle Atlantic house type found in the Upper South and along migration routes into Texas. Found, as well, in the bordering Lower South regions, this house type is uncommon in the Tidewater South.

Jordan (1978) notes a dialectic problem in Texas, in that the term "saddlebag" is often used to describe the house plan known in other regions as the "dogtrot" (Evans 1952). In this text, the Eastern United States distinction has been maintained.

An asymmetrical double pen house, usually associated with English settlements, is the hall and parlor house. The parlor is the larger of the two rectangular shaped rooms. These were almost never built of logs, and were found in the Tidewater areas on the seaboard as well as in the interior regions settled by English immigrants and their descendants. As the house plan was adapted along the westward frontiers, the hall and parlor had several variations. There were sometimes two exterior chimneys, or an interior chimney on the interior dividing wall (Glassie 1968). The roof was a side facing gable and porches were usually of shed roof variety. As with the "saddlebag," the interior chimney can be considered an important clue to Upper South diffusion, as Lower Southern house builders more commonly placed the chimney on an exterior wall. A "central hall" feature is perhaps an adaptation of the basic hall and parlor plan, with the hall becoming a passageway and another room, of comparable size to the parlor or in some instances somewhat smaller, placed on the opposite side of the house. Several variations of the central hall house and their possible evolutions should be considered.

One of the most interesting variations on the central hall plan is the "dogtrot" house. This double pen dwelling is found in the edge of the Upper South but is especially common in the Lower South region of the United States, extending into Texas. This plan has two pens, separated by an open passageway, with one or two exterior chimneys on the gable ends of the house. A porch across the front of the house, covered with a shed roof, may be matched by a similar porch on the back of the house. Commonly, a detached kitchen was in back of the house, along with a shed room on one side. Occasionally the side gables are steep enough to allow a usable loft space. One interpretation of the evolution of this plan is that it was a spontaneous invention in response to the hot southern climate (Collier 1979). Another explanation of the dogtrot plan is that the two room-with-passage concept is a folk adaptation of the Greek Revival high-style plan (Alexander and Webb 1966). Still another view is that the open passage German barn provided the original pattern (Glassie 1968). Probably all these factors contributed to its widespread adoption and continued popularity into the early twentieth century.

Whatever its evolutionary process, the arrangement of two rooms around a passageway is seen in a number of traditional house types. When the plan is essentially the same as the dogtrot, but the passageway is enclosed, the result is the central hall house mentioned above. There are many possibilities when one is considering a central hall house. A number of rooms may be added to the original three, on the back of either side room, making an elongated hall, or rooms may be added on one side with a back porch forming an ell with the central hall. Former dogtrot houses are often converted to central hall houses by simply walling in the open passageway (Collier 1979; Jordan 1980).

Discussion of houses larger than three rooms is inevitably complex because of the interactive relationship between the formal architectural styles of the eighteenth and nineteenth centuries, the derivative "status" houses of ordinary people in the same periods, and the elaboration of small folk plans to accomodate increasing family size. Typologically, several house types can legitimately be considered folk types, but at the

same time, their development was undeniably influenced by the prevailing high-style manifestations their builders were exposed to. Types in this category include the I-house and the folk Georgian plan; an exception is the "southern pyramidal" house type.

The southern pyramidal house is an expanded version of the Cumberland plan, two rooms deep, two rooms wide, and square (or nearly so). As its name implies, the roof is hipped, either pointed or truncated. These houses generally have a central chimney or stovepipe hole in the kitchen ceiling. Like the shotgun and single-cell houses, in rural settings, it often (although not always) symbolizes a lower standard of living than the norm.

The I-house is so named because it was first identified as a distinctive type in Indiana, Illinois, and Iowa. When the three-room central hall plan occurs as two stories and a single room deep, it is called an I-house. Beyond the basic plan, the I-house has been cited as having many varied characteristics. There may be one or two chimneys, usually but not always exterior end chimneys. The ridgeline is perpendicular to the hall, and at least a partial porch is usually (but not always) appended to the front of the house. Generally considered a Mid-Atlantic architectural development (Glassie 1968), the facade presents the greatest possible square footage in its facade, impressing the passerby with its size; this perhaps explains its popularity with successful farmers in the Midwest (Kniffen 1965; Glassie 1968; Swain 1978). The origin of the I-house has been a matter of some debate. Architectural historians explain that high style Greek Revival houses, professionally planned and built in urban areas, were the prototypes for the simplified folk housing of the rural countryside. Folklorists, in contrast, tend to see the simpler style as the original, with the "adoption of its form by some Greek Revival architects" (Glassie 1968:90). Both viewpoints have some validity but both are unfortunately narrow. Because of the similarity in form, the central hall folk house was easily adapted through the use of the classical Greek Revival detailing to become a higher-status vernacular building, while still retaining familiar proportions and fenestration patterns. Likewise, simplified Greek Revival cottages derived from high-style models are virtually indistinguishable from contemporary folk clapboard houses.

The folk Georgian plan is closely related to the academic Georgian movement in domestic building. The broad central hall with embedded or end chimneys and double rooms on either side of the hall is the hallmark of the Georgian style. The formal style placed emphasis on symmetry--indoor and window placement and decorative detailing. The folk Georgian plan, with its embedded interior chimneys, four-rooms, and hall, is a one-story equivalent. It also can be viewed, however, as an expansion of the three-room central hall-plan, and undoubtedly the conceptual similarity ensured its popularity regardless of the nature of its antecedents. The single-story Georgian house often has Greek Revival or Italianate detailing. The folk Georgian house often has large cross-gables on one or both sides.

One final folk house type can be identified. The shotgun house is so named, according to oral tradition, because you can shoot in the front door and the shot will exit out the back door. The type is characterized by a gable-entry plan one room wide and two or more rooms deep. The shotgun house has African antecedents (Vlach 1976) and, because of its association with black tenancy, is usually associated with poverty. It occurs commonly in urban as well as rural settings, because its form makes it ideal for inexpensive high-density urban dwellings. The shotgun house also has been associated in Texas with oil-boom construction (Grider 1975). Although more common in the Lower South, versions of the shotgun house are seen in both the Upper and Lower South in all contexts--rural areas, small towns, and urban centers.

The transition from folk to vernacular domestic building was a lengthy one in most areas of the United States, encompassing a period of as much as seventy years, between 1860 and 1930, but concentrated primarily between 1880 and 1920. Several events triggered this change. In most frontier areas, finished lumber was not readily available and was expensive until the arrival of the railroad. Many frontier areas had limited economic bases, which hindered the development of specialized trades. The southern states, particularly, were enthralled in the cotton cultivation debt cycle, while many other areas were hard hit by the depression of the 1890s. The invention of the jigsaw, however, combined with the popularity of carpenters' books (such as those published by Andrew Jackson Downing) heralded a unique period of ornamentation embraced by the common man. Rural areas, always culturally conservative, were nonetheless affected, and farm journals served as diffusionary propagators of "progressive" building.

In terms of form and plan, ell and tee houses, built most commonly in the Midwest, began to appear in the Texas landscape as vernacular housing began to replace folk building. Verandas were for the most part passed over in favor of the traditional Southern porch. As elsewhere in Texas, Greek Revival detailing continued to embody important rural cultural values and remained the dominant decorative style, although Victorian gingerbread was not unknown.

Most popular of the vernacular movements, however, was the planbook. Both the planbook and the bungalow styles departed from a "formula" approach and thus are best discussed as design ideas rather than as sets of characteristics.

Planbook homes were a logical outgrowth of the carpenters' handbooks published beginning about 1830 (Collier 1979). Lumberyards, independent architects, and publishing houses alike flooded the market with easy-to-read and easy-to-build illustrated plans in a multiplicity of sizes and design options. In lumberyards and hardware stores, plans were often free if you bought building materials from their establishment. The most common north-central Texas planbook home is the "cut-out porch," a square or rectangular house with three rooms and a corner porch. The height of the planbook movement came after the turn of the twentieth century, when "mail-order" houses became common. Prefabricated and modestly priced, the house came in pieces and was nailed or bolted together on the site. These houses were advertised in catalogs published by Sears and Roebuck and Montgomery Ward, among others.

"The American bungalow, according to architectural historian Clay Lancaster, is one of the characteristic building types of democratic America" (Mattson 1980:75). Indeed, it may be the prototypical American style, combining economic, social and structural considerations to produce the best possible of all solutions to the problem of providing good domestic housing for virtually everyone. The dominant characteristics of bungalows were "artful simplicity, efficient interior plan, adaptability and harmony with the surrounding landscape" (Mattson 1980:75-76). In more mundane terms, bungalows are "essentially a low-slung structure with numerous windows, large porch, natural or low-cost materials, projecting roof and exposed support brackets" (Mattson 1980:75). Most often, bungalows were gable entry, or side-entry with large front dormers projecting into the porch roof. The bungalow was discussed extensively in the literature of formal architecture beginning about 1905, and many prominent architects designed and built substantial bungalows, but the style was primarily a vernacular one which sustained its impetus in the popular presses of the time, and remained the predominant vernacular building made until well after World War II in many areas.

Barns and Outbuildings

Not all buildings in the rural landscape are dwellings. While housing is surely the most important aspect of the rural built landscape, other types of buildings should be considered in terms of their cultural as well as their functional traits. Various outbuildings, including barns, smokehouses, potato houses, and cribs, may be present on the southern farmstead. Barns may vary, but generally can be classified as English, single crib, or German double crib, or larger multi-purpose structures (Glassie 1965, 1966). Outbuildings were generally constructed with less care than was given to houses (Glassie 1964; Jordan 1978). Therefore, log construction tended to be used in outbuildings long after dwellings were being constructed of frame. "Outbuildings were carried by diffusion and migration from the Southern Mountains to all parts of the South. . . not only the mountain types but also the southeastern. . . types" (Glassie 1964: 25). Much less literature on outbuilding types than houses has been produced, and virtually nothing about Texas types has been published to date.

Religious and Commercial Structures

Rural churches were the most distinctive non-domestic buildings in the early settlements. First made of logs, later of milled lumber, these churches are deliberately plain and simple. The high-pitched roof of the white framed buildings can be seen, usually without steeples, with the arrayed white tombstones of the cemetery nearby. A tabernacle, or open, roofed structure, may be nearby, related to the old-time "brush arbor," used for services, "singings," and homecoming celebrations. Schools were often used for churches as well, and vice versa. The cemetery may represent the community burial place, but commonly small burial sites are found in small communities, or family farmsteads. The more traditional of these cemeteries have mounded graves and are void of grass, or may vary as to care of family plots (Jordan 1980).

Other buildings which reflect public or community effort, the courthouse, stores, lodges, or schools, also can provide clues to diffusion and culture characteristics. For example, the courthouse square of the majority of the counties in the north-central Texas area is in the "Shelbyville" square, so named from Shelbyville, Tennessee, probably indicative of the Upper South cultural influence (Ellis et al. 1976). Stores are notable not so much for their architectural style as for their value as spatial indices of community organization and definition.

Available evidence, historical documentation, personal interviews, and careful study can reveal many aspects of the essential character of a geographic region. A close look at the built environment, then, while rewarding and informative, is no simple task. Consideration of migration routes, contributing culture regions, and previously gathered information is essential in understanding pattern in the landscape as we see it today.

Historic Regional Development

Hudson (1969) theorizes that the process of settling a region occurs in three phases, colonization, spread, and competition. This generalized model has been adapted by Skinner et al. (1981) in identifying changes in East Texas historic settlement. King Cotton was never a dominant agricultural or cultural force in the study area, however, and the study area was not greatly affected by the oil and/or vegetable boom in the early twentieth century that added another developmental phase in many parts of Texas.

Therefore, a closer examination of Hudson's model would seem to be in order. Central place theory, diffusion theory, ecological distribution theory, and morphological laws have each made their contribution to the consideration of settlement in an "empty" frontier environment, as a process theoretically independent of local and circumstantial factors. Hudson finds ecological theory most useful in considering settlement processes. He summarizes ecological distribution as follows:

- 1) A phase of colonization occurs; the species invades a new area, extending its habitat beyond the borders of its former environment;
- 2) biological renewal produces a regeneration of the species through an increase in numbers with a general tendency to short-distance dispersal, filling up the gaps in the distribution formed by the original colonizers, and as time passes the process is checked by a third set of forces;
- 3) owing to limitations of the environment, weak individuals are forced out by their stronger neighbors, density tends to decrease, and pattern stabilizes.

The first process is here termed colonization, that phase associated with the dispersal of settlement into new territory, or a new environment, or into an unoccupied portion of the old environment. The second process is termed spread. Characteristic of spread is increasing population density, creation of settlement clusters and eventual pressure on the environment, both physical and social. The third process, competition, is best documented in geographical location theory. It is this process that tends to produce great regularity in the settlement pattern. . . (Hudson 1969:366-7).

When density is low, and unsettled areas are common, settlement locations are essentially independent of each other. As density increases through a continued diffusion of settlements, competition for space becomes increasingly important. The pattern changes from a highly clustered to a highly regular arrangement as weak individuals are forced out and the average size of holdings increases (Hudson 1969:380).

One of the major problems in assembling a background history of any project area in order to discuss historic regional development from the secondary literature is that the project boundaries do not usually conform to either political divisions or natural geographic regions. Consequently, compilations of historic county statistics and laymen's county histories may be most misleading, and information arranged geographically for small local regions may be unavailable. Therefore, in the results section (Chapter VII), the study area is discussed in relation to the initial settlement pattern and evolving transportation and communication networks influencing the historic development of the larger three-county area of Denton, Cooke, and Grayson counties. Historical research hypotheses, discussed in the results section, were developed based on initial research on the Denton County portion of the lake area.

This initial research suggested that two distinctive patterns of evolving land utilization were present in the region surrounding the study area historically, and that these two distinct patterns were the expression of predictable cultural preference by initial settlers for one of the two natural geographical regions in the area. It is likely that these two natural regions--the East Cross Timbers and the Prairie immediately adjacent on either side (the Blackland Prairie to the east, and the Grand Prairie to the west)--

initially attracted settlers from regions of similar topography, vegetation, and soils in other regions of the United States, thus encouraging the establishment of different agricultural cropping systems by the late nineteenth century. This settlement situation makes likely the parallel evolution of a traditional hill southern landscape in the study area bordered by mid-nineteenth century midwestern prairie landscapes. Each type of landscape has identifiable characteristics in architectural styles chosen for buildings, site preference, field patterns, farmstead arrangement, and choice of crops.

Although much literature concerning local history exists for this area, this difference in initial settlement pattern and development in the area between the two regions has been virtually ignored by some (Odum and Lowry 1975; Odum 1980: personal communication) and assumed by others (Jordan 1980: personal communication). Jordan's findings in his excellent work on Texas log buildings suggest a variation between regions on the basis of material culture evidence, but the systematic investigation of such an important variable has been neglected to date even in studies of the settlement of the area (Fuller n.d.).

Since most of the project area lies in the Cross Timbers region, this study was largely geared toward an indepth examination of the historic material culture patterns of the Cross Timbers, using the study area as a sample area. This will enable systematic comparison with north-central prairie localities as other scholars' research progresses.

Initial Settlement (ca. 1830 - 1850)

White settlers were in the Denton County area as early as the late 1830s. At about this same time, Texas Indian patrols had an outpost 3 mi southwest of the future site of the City of Denton. Settlers belonging to the formal Peters Colony began moving into southeast Denton County in early 1843, and the county itself was formally organized in 1846. In spite of this, Peters Colony settlements did not spread to the Cross Timbers area until the early 1850s. The Central National Road (Preston Road) located to the east of the Denton County line was established by the Republic of Texas in 1844.

Based on preliminary research and conversations with scholars familiar with the area's history and geography, it seemed very likely that the state of origin for the majority of the initial permanent settlers in the Cross Timbers area was one of those defined geographically as belonging to the Upland South region. This region comprises the states of Kentucky, Tennessee, Missouri, and southern Iowa, Illinois, and Indiana (Figures 5-3 and 5-4). It was suggested that the Cross Timbers area was settled earlier than the adjoining Blackland Prairies, even though the prairie areas were actually better farmland, because the initial migration stream into the area was primarily Upland South (who had hill-country geographic preferences) in composition. In this regard, it also was suggested that although many of the initial settlers in the northeast Denton County settled as part of the Peters Colony, their cultural affiliation was Upland South (Jordan 1980: personal communication; Odum 1980: personal communication).

Jordan (1980: personal communication) believes that these initial farmers practiced an Upland South slash-and-burn agricultural pattern (Owsley 1949). That is to say, they were primarily hunters and gatherers who grazed hogs in the brush and timber, and cleared small plots of land for the cultivation of subsistence grain and garden vegetables. These initial Cross Timbers settlers probably created traditional dwellings and outbuildings of notched log construction and arranged them in a manner similar to farmsteads in their native states. Jordan also suggests that the eastern prairie settlers of the study area were primarily from the midwestern states and were a minority of the

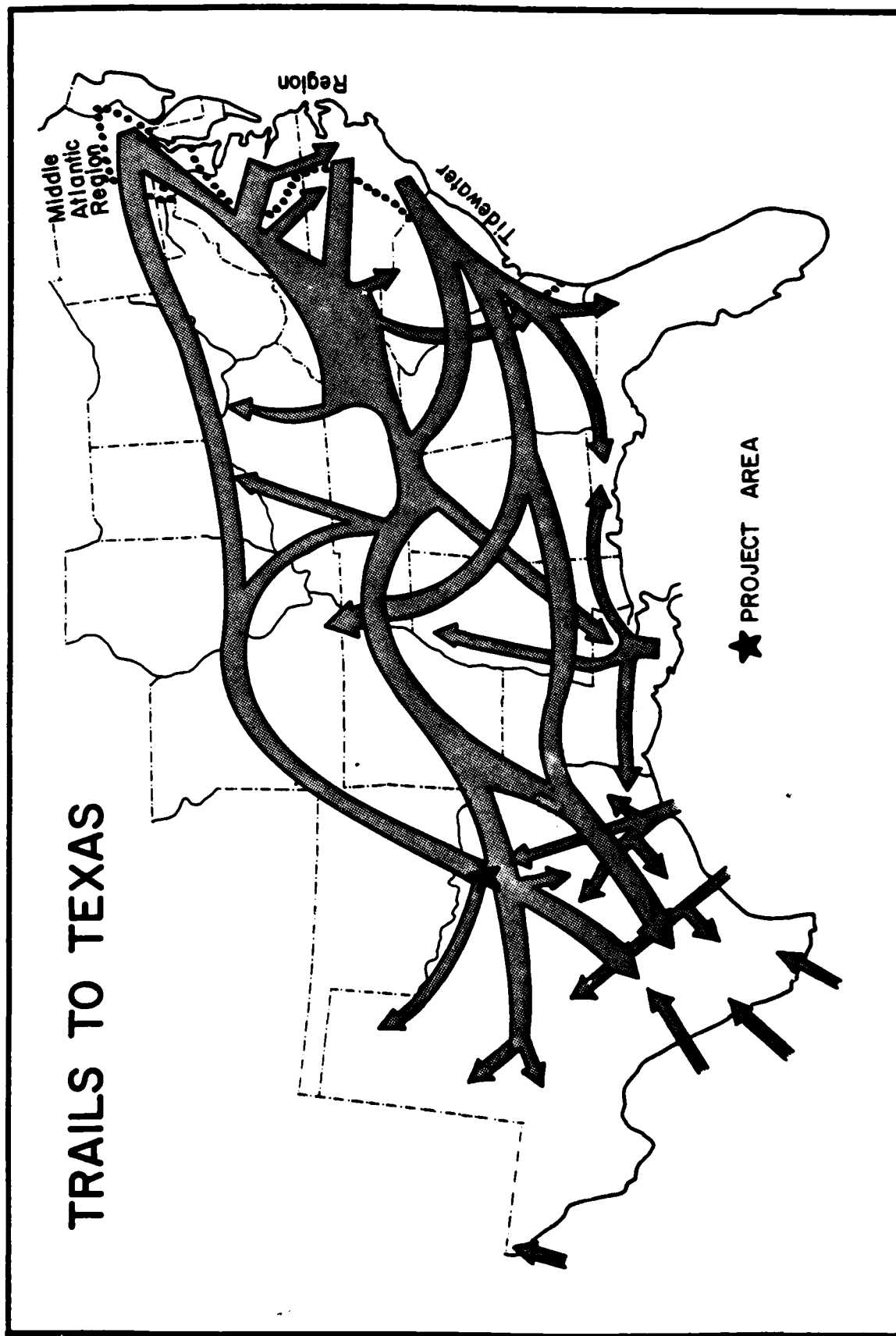


Figure 5-3. Map showing diffusion of Upper South material culture traits to Texas (after Collier, 1979).



Figure 5-4. Culture regions as mapped by Glassie (1968).



total population of the counties in this earliest settlement period. Midwestern settlers would have built initial log houses of midwestern, rather than southern, plan and technology.

Regardless of the state-of-origin of the owners or builders, it was suggested that individual homes showed growth through structural accretion as family members came west to join the initial settlers. Lower South settlers, although present in the study area in small numbers, probably had a negligible influence on the initial settlement landscape. In general, new homestead settlements would have occurred next to earlier settlements (unless the settlement order was tampered with). These new settlements were likely to have been family members related to the initial settler(s) or from the same neighborhood back home.

When initial migration into any area began, optimal sites were selected by the first settlers to arrive. An optimum settlement site is determined by an individual on the basis of cultural as well as environmental factors, including but not limited to: access to a water source; desirability of land for agricultural pursuits; availability of building materials; familiarity with topography and soil; access to transportation and communication networks; known climatic factors associated with the site of the area (e.g., prevailing winds, amount and type of precipitation expected, drainage); and perceived environmental hazards (e.g., chance of flooding, danger of fire from lightning, prairie fires, etc.).

In the case of Upland South immigrants into the Lake Ray Roberts area, certain site preferences may be suggested. These would have included proximity to a stream as being of primary importance. Thus, in the study area, initial settlements were probably located so as to maximize access to major local waterways, either the Elm Fork or Isle du Bois Creek. In addition, "hilly" topography would have been preferred over more "rolling" topography, while on the prairies, hilltop locations would have been preferred. Settlement locations in or near mature timber for building purposes also would have been considered optimal. Settlement may have occurred initially on the uplands because of the danger of flooding in the bottomlands. Remote locations in respect to the nearest major transportation routes would not have been a major barrier in site selection, but where all other factors were equal, close proximity to an improved wagon road would have increased the likelihood that a site would be selected early. Likewise, eastern sites close to the Preston Road, just east of the Denton County line were likely to have been chosen first. Thus, settlement within the study area probably spread from east to west following the creeks. The initial dwellings on these sites may have been aligned east-west, unless idiosyncratic variation in site location altered the direction of summer breezes and cold winter winds.

Less is known about midwesterners' site preferences with relation to a grid system that is not completely linear, however it seems likely that midwestern immigrants also preferred hilltop locations, upland topography and proximity to roads. Beyond this, hilltop locations may have been preferred by midwesterners not because of their resemblance to southern hill country, but because early transportation routes were located along the top of ridges. Also, although their farmlands were established on the upland areas, midwestern farmers were more likely to cultivate alluvial soil and take the chance of having their crops flooded. Finally, midwesterners probably aligned their dwellings parallel or at right angles to the roads, regardless of the cardinal directions.

Agriculturally, regardless of regional origin, the initial settlers in the study area were by definition generally out ahead of transit lines (i.e., railroads, freighting companies) or adjacent to cities and were thus limited to a subsistence economy. As a result, any

differences between crops planted by initial groups of settlers may have corresponded to traditional foods and methods of food preservation (such as preferences for either beef or pork, wheat flour or corn meal). Such differences in foodways would have been reflected in early outbuildings, such as the presence or absence of root cellars, smokehouses, sweet potato houses, and the relative size of granaries and corn cribs.

Spread of Settlement (ca. 1850 - 1875)

After initial expansion of permanent settlers where families joined the first settlers and those initial settlers began to become established, the spread of settlement occurred as empty areas between the initial settlements began to fill up. In this stage, closer trade centers in the form of growing towns were established and became a significant part of the built landscape. Rural neighborhoods evolved and were marked by schools, churches, cemeteries and/or stores centrally located in the neighborhoods. The termination of this stage was marked by the arrival of the railroad, when local agricultural and economic activity spatially reorganized to reflect the change in transportation of goods to market and thus the greater demand for cash crops. The spread of settlement, which in the project area covered a period from ca. 1850 to ca. 1875, was the most dramatic period of landscape change in the study area.

The Civil War had little effect on the residents of Denton County. The population of Denton County in 1860 was slightly more than 5,000, of which only 5% were slaves. "Reconstruction affected Denton County only insofar as the Reconstruction government in Austin failed to find remedies for the generally unsettled conditions and poverty" (Odum and Lowry 1975:5). The Cross Timbers served as a barrier to east-west migration and northwestern Denton County was completely settled before settlement of the western prairie portion of the area began. Settlement in northeast Denton County was nearly complete by 1870 (see Figure 4-1), although land was still available both for homesteading and by purchase. Settlement of the prairies was hindered by the use of that land for cattle grazing by cattlemen. Barbed wire was introduced into the area in 1875, and livestock rather than crops began to be fenced in. Economic depression and grasshopper epidemics in 1858, 1861, 1873, and the mid-1890s affected the economic development of the area. The sudden economic slump in 1873 was particularly critical since the Dallas and Wichita Railroad line had almost reached Lewisville directly to the south in 1872 and the Missouri, Kansas, & Texas (M, K, & T or Katy) Railroad had reached Dennison from Kansas City in 1873. Prior to this time all products not produced locally were hauled from Jefferson by wagon. Also, around 1870 the stagecoach served Denton and Pilot Point and some point between; at that time the population of the City of Denton was 329, and Pilot Point was about the same size. At this time there were settlements every few miles, most with a church or church/school building and cemetery. Only a few settlements, such as Vaughntown, possessed a store or post office. Not until 1881 did Denton get a railroad, and then it got not one but two lines.

Agriculture during this period remained primarily subsistence-oriented, with some production of butter for local markets and some cotton as an easily transportable cash crop (in 1860 the total production of cotton in Denton County was two bales; by 1870 it had increased to 674). The greatest rural growth in the county occurred in the decade between 1870 and 1880, probably in anticipation of the improved economic opportunities the railroad would bring. By 1868 Lewisville had a sawmill of its own, although much of the lumber continued to be imported from Jefferson before the arrival of the railroad. By 1880, cotton production in the county had increased to 11,568 bales. Most of the wheat grown in the area was still consumed locally, although production more than doubled in the same decade.

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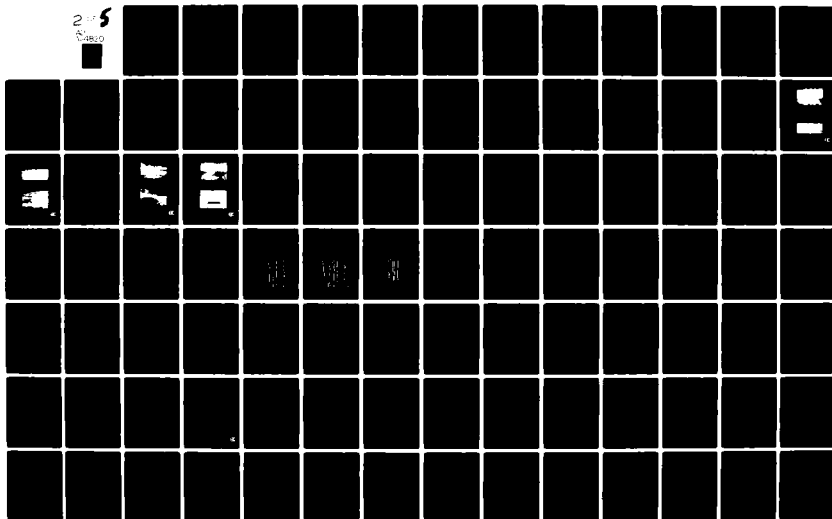
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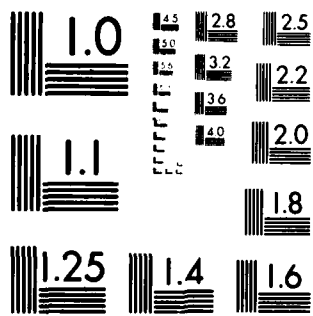
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Jordan (1980: personal communication) has speculated that Cross Timbers residents were not active in the expansion to a cash-crop economy and continued traditional subsistence farming well into the twentieth century. As rural population in the area neared its peak, all available land was taken up by settlers and by 1875, homestead settlement was evenly distributed throughout the area, in areas of good farmland. It is suggested that areas of higher population density formed along the river and creeks and on any area roadways, particularly those which led directly to the Central National Road (Preston Road) as communication links. In addition, smaller centers of population, formed during this period, developed within the study area.

Competition (ca. 1875-1935)

Less has been written about agricultural development in the post-railroad boom period than in the Spread of Settlement period. The general transition to a cotton cash-crop economy on the prairies has been well documented, although it has been suggested by Jordan (1981: personal communication) that this was less true for the Eastern Cross Timbers area. Since the project area had little or no black population, farm tenancy at the turn of the century and in the early twentieth century may have been almost entirely a result of the land tenure system. Unfortunately, no description of the land tenure system in the project area has yet been located, and further research on this topic is being pursued.

In 1920, at the peak of the farm tenant concentration in the area, Denton County's rural population numbered 27,729 people on 4,200 farms. Of these, 1,828 farms were operated by the owner, and 2,354 by tenants. The ratio of owner-operated farms to tenant farms was approximately the same in Grayson County, although the number of farms was greater. In Collin County the ratio was nearly 1:2, reflecting the greater amount of Blackland Prairie suitable for intensive agriculture in that county. In Cooke County, largely a Cross Timbers area, the number of owner-operated farms was only slightly greater than the number of tenants, the lowest owner-tenant ratio in the project area. This suggests that there was a lesser rate of tenancy in the Cross Timbers region after the turn of the century and prior to the Depression.

An approximately equal number of debt-free and mortgaged farms were located in Cooke and Denton counties in 1870, both of which have Cross Timbers areas, while Collin and Grayson had one-and-one-half and twice the number of debt-free farms in the same year, respectively. This further suggests that Blackland Prairie farms produced more cash crops and therefore were more prosperous than Cross Timbers farms, whose soil was less suitable for intensive cultivation. In terms of the evolving built landscape, this should mean that larger and more numerous houses were built on the Prairie than in the Cross Timbers during this period; and prairie houses built during this period would stylistically reflect the increased wealth and prestige of their owners.

It also suggests that there was less difference between landlord and tenant housing in the Cross Timbers area in the early twentieth century than on the prairies. Agricultural outbuildings on the prairie would have been constructed in the popular culture mode, while outbuildings constructed during this period in the Cross Timbers would have reflected traditional farms and patterns. The advent of the railroad altered the settlement matrix of the area by shifting the modes and networks of communication to the east and south.

As competition for available resources increased, regularity of settlement distribution during the previous period was replaced by a definite tendency toward clustering. Following 1880, exploitation of the prairies resulted in the growth of new population

centers further away from the study area, on the prairies. Population density within the study area increased drastically during the early part of this period while the actual number of land-owners decreased. Construction of the railroad in the 1870s resulted in a shift of population from the Elm Fork area to the area of Isle du Bois Creek, and also resulted in the establishment of a major east-west link through the study area.

The Agribusiness Period (ca. 1935-Present)

It is hypothesized that during this period, the process of competition, coupled with the mechanical technology which made tenant-farmers obsolete, resulted in declining population density within the study area, and in settlement regularity. Contributing to the speed of this process was an increase in cattle production after 1940. As this occurred, land holdings and land-use patterns again shifted. Small farms reverted back to pasture, and farming became uneconomical. Greater acreage needs for grazing resulted in net increases in land holding. Population decline was the marker for the onset of this effective competition phase. The use of land ownership as capital, however, confused these patterns.

In addition to changing agribusiness patterns, increased urbanization since about 1960 dramatically altered the look of the land in the project area. Planned bedroom communities of the Dallas-Fort Worth Metropolitan area now reach to the southern edge of the project area, and construction of the Lake Ray Roberts dam can be expected to aggravate the introduction of gentlemen farmers and suburban elements into the landscape, so that need for documentation of remains, historical structures, and farm complexes will become critical in the next decade. Since construction of a dam selectively floods lowland cultural landscape elements, it will be important to provide an adequate record of the pre-construction landscape for comparison with the surrounding upland and prairie landscape.

VI. METHODOLOGY

Introduction

The main goal of all cultural resources management (CRM) survey work is collection of maximum information concerning the nature, extent, and possible significance of cultural resources in a project area. These data should be in such a form that they can be quickly and efficiently analyzed and summarized. Information thus obtained can then be used to systematically test hypotheses pertaining to current research questions.

The methodology used in a project is necessarily a product of the questions asked (the research design) and the time and budget limitations of the study. The purpose of formulating a methodology is to devise ways of collecting data so that the questions posed in the research design will be answered. However, time and budget constraints of CRM studies often pose severe limitations on both the questions that can reasonably be addressed and the methods that can be used to collect and analyze pertinent data. Such constraints often require the use of compromise methods, that is, methods that are scholastically viable but entail less than the maximum data collection. For instance, if we wish to identify all surface cultural resources with 100% certainty, the surest method would be to strip off all vegetation so that the surface could be examined. This is clearly not a feasible method for large tracts of land, particularly when the surface may not be otherwise disturbed for many years. Another factor that must be considered is the physical reality of the field location. Landform, vegetation, weather, land tenure, and other factors all affect the field methodology chosen. Still another consideration is the availability and accessibility of primary and secondary source material concerning the history and prehistory of the area. Thus, the methodology is a unique product of the specific circumstances of each project. The better the adaptation, the better the work that will be performed and the larger the amount of data that can be collected and analyzed.

The methodology used to collect data in this survey is discussed below in two parts. The first section describes the procedures used for field survey (inventory) and documentation of sites within the project area. The second part describes the background research (both primary and secondary) needed to enable location, definition, interpretation, and evaluation of the significance of historic and prehistoric sites in the area.

Field Survey And Documentation

Material culture resources (prehistoric and historic sites) undergo considerable alteration over long periods of time (e.g., houses collapse, perishable materials such as wood and cloth deteriorate, alterations by man change the features of the site). More durable items such as glass, ceramics, and stone are often moved by erosion or man-made alteration. Therefore, sites are commonly classified according to data recording procedures that must be used to collect physical information about the sites. Sites are divided here into three categories: 1) historic standing structures sites (which often have an historic archaeological component as well), 2) historic archaeological sites (including cemeteries), and 3) prehistoric archaeological sites. The first two site categories are associated with American and European occupation of the area, while the third represents the Native American aboriginal occupation. In many areas of Texas, the Native American occupation overlaps American European settlement and occupation. However, no evidence was found during this survey that would suggest this to be true for the Lake Ray Roberts study area.

Each of the three types has certain distinct characteristics, requiring different methods to be developed for locating and recording each type of site. Locating standing structures is usually no problem, since they are generally identified as buildings on U.S.G.S maps and county road maps, and/or are highly visible. Therefore, determining the location of these sites was a secondary goal of the survey.

Historic archaeological sites, on the other hand, are more difficult to locate. Standing structures previously on the site have been demolished or removed, or have collapsed and begun to deteriorate. Surface evidence of historic archaeological sites ranged from the obvious (in situ foundation, or built-up wells), to the merest ground depression of a filled well, or a thin scatter of ceramics and glass. In addition, structural information about previous buildings on the site is more limited than for standing structures. Data on internal site organization may or may not be available, depending upon the preservation of evidence of foundations, cellars, and wells. The artifact assemblage on the surface is often so small that only broad generalizations about site type, age, or feature interpretation can be made.

Domestic vegetation played an important role in locating and defining historic archaeological sites. Certain types of native plants were historically preferred (either planted or protected), and other more exotic plants were commonly used in landscaping. This is especially true for domestic habitation sites. Large oak or cedar trees were often located on historic sites and are relatively easy to spot. Fruit trees, crepe myrtle, osage orange, iris, and other fruiting and flowering plants often delineate features within a site. Indeed, an array of these domestic plants is sometimes the only surface indication of an historic site.

As a result of the effort to record all located historic sites, some marginal sites were recorded that may prove upon testing not to be sites at all. An historic site was minimally defined for the purposes of this survey as a place having at least evidence of cultural remains, or a clearly characteristic vegetation pattern. Places having a clearly defined location mentioned in the secondary historical literature or sites pointed out by a local resident and confirmed by at least one other person were checked for cultural remains or historic vegetation before designation as a cultural resource site. Cultural manifestations such as field terracing, roads, barbed-wire fence lines, and cattle ponds were not included in the recording process because these data are readily available from various maps, property plots, and aerial photographs of the area. Where the exact age of the site could not be ascertained, the arbitrary 50-year cut-off for the minimum age of an historic site was used. If there was a doubt about the eligibility of a site under the 50-year guideline, the site was recorded.

Prehistoric sites tend to be the least obvious of the three site types. Generally, there are no surface irregularities marking the placement of non-extant structures, nor are there documented vegetation patterns unique to prehistoric sites in the project area. Sites were located and defined by the presence of cultural materials, usually in the form of lithic scatters. To be considered a site, a significant number of artifacts indicating a loci for "systematic cultural activity" had to be present. This does not include one or two artifacts of eroded or derived origins. In cases where single prehistoric artifacts were found, a minimum number of shovel tests--at least four, no more than a shovel blade deep in the immediate vicinity of the artifact--were used to determine the presence or absence of a buried site. If no other artifactual material was located, such finds were labeled "isolated" and were recorded by placing a point on the survey map, filling out survey forms, sketching the artifact to scale, and photographing the specimen.

Strategies for Site Location

Three strategies for site location were used during the field survey. While they will be discussed individually, information from all three was used throughout the survey to reevaluate survey methods and improve the quality of the field work. One strategy used was to interview local collectors and landowners to identify and pinpoint site locations. In several cases, local residents graciously spent time going from site to site with crew members to point out exact site locations.

Second, archaeological literature and maps of topography and soils were used to identify land forms most likely to contain sites so that special attention would be given to these areas during the field survey. The 1943 edition of the U.S.G.S. 15-minute topographic maps was used to assist in locating sites. These maps show the location of extant buildings in the project area at that time. Earlier historic maps were used to identify early twentieth century farmstead locations: the 1917 Denton County soil survey map; the 1909 U.S. Post Office map of Cooke County; and a 1917 road map of Grayson county published by Joseph C. Field and Co., of Denison, Texas.

Survey Strategy

Standard survey units consisted of previously designated tracts of land outlined on the U.S. Army Corps of Engineers (COE) aerial photographs. Each of these tracts was assigned a number by the COE. This number was used to reference each survey unit within the project area and to minimize the time spent on record keeping and searching for a corner marker or topographic reference point in the field.

Three to five individuals were grouped in crews at the beginning of the field survey to determine optimum crew size. Field experience revealed that one crew chief and three crew members was the optimal size for survey efficiency and transect alignment control.

Each four-man survey team was equipped with: letters of introduction/identification, survey recording forms (State of Texas-Historic/Prehistoric; see Appendix A), a metric rule, waterproof notebooks, survey maps (aerial, U.S.G.S., and land ownership), compass, 30-m tape, carrying pack, collection bags and labels, flagging tape, pin flags, biodegradable toilet tissue, site datum stakes, site label tags, shovels, and 35 mm cameras with black-and-white and color film.

Upon arriving at a predetermined survey unit (tract), the crew chief aligned the crew members to a fence line, road, or compass bearing. Transect orientation was determined by the crew chief after examination of aerial photographs and topographic maps; usually a north-south or east-west direction was chosen. Distance between transects also was determined by the crew chief for each tract or section of tract according to several variables: probability of site location, type of landform, and type of ground cover. Wide intervals (up to 50 m) were used in uplands and upland slopes where ground cover was sparse, probability of prehistoric sites was low, and historic standing structures and archaeological features were clearly visible. In those areas where horizontal visibility was poor or ground cover was deep (e.g., lower terraces and floodplains), the interval was reduced to 20 m. Although 20 m spacing is narrow, visual contact between crew members was necessary to maintain uniform transect intervals and to enable the crews to map their exact location at all times. The closer interval also reduced the chances of missing archaeological sites because of dense vegetation.

Each crew member was responsible for maintaining proper alignment and communicating with neighboring crew members on either side. The crew member on the outside (furthest from the edge of the survey tract) maintained his line with a compass, marking the edge of his transect with toilet tissue. At the end of the sweep, the crew pivoted around this crew member, moving over an appropriate distance to avoid transect overlap. The crew would then walk in the opposite direction repeating the above process. King (1978) calls this a non-exclusive comprehensive survey method. Each individual tract was completely surveyed by the team before moving to another survey unit. This surveying procedure was modeled after that developed at Fort Hood, Texas (Briuer and Thomas 1980).

At the end of each day, crew chiefs mapped the sites on clean copies of field maps, assigned a tentative occupancy date to the site, and summarized their observations and reported personal contacts in a field journal. These field journals and similar journals produced by the historians provided a record of survey conditions and refinements, and documented occasional idiosyncracies in the recording process.

The project director and crew chiefs met with the historians at irregular intervals during the survey to discuss methodological problems and to exchange information. This interaction facilitated both the identification and dating of sites located by the field crews, and the identification of potentially good informants.

Shovel Testing

After surveying the dam construction, spillway, and borrow pit areas, the effectiveness of the systematic uniform 50 m interval shovel testing procedure used was evaluated. This evaluation showed this procedure to be largely unproductive. It was shown to be both time consuming and inefficient, as well as a survey method that has very low recovery yields per site. Survey of a large tract in east Texas confirms this observation (Skinner et al. 1981). Therefore, in continuing the survey, these shovel tests were abandoned. However, other distributions of shovel testing have been shown to be a reliable, and thus useful, method of determining site limits (Woodall 1981). The term "shovel testing" is used here to mean turning over one bladeful of earth with a standard shovel.

Once systematic shovel testing was proven unproductive and abandoned, the survey crews implemented judgemental shovel testing in selected locations. Landforms previously identified as likely locations for cultural materials within the survey tract were subjected to shovel testing as well as surface observation. Other landscape features (such as depressions) also were tested. Shovel tests were held to a minimum to keep from destroying the research potential of the deposit. Shovel tests averaged 30 cm in diameter and never exceeded a depth of 40 cm.

Site Recording Procedures--Historic and Prehistoric Archaeological Sites

When one member of the crew noted the presence of a site, all others were informed of it and the sweep continued across the site; all artifacts thus located were flagged. When no more artifacts were located, the crew returned to the site proper for detailed examination and recording.

Estimation of site boundaries (by shovel testing and surface observations) was critical to answer many of the questions posed in the Research Design. Because prehistoric population estimates are based on site size estimation, it was important that this information be recorded as accurately as possible. Surface area can be adequately

estimated only when the site boundaries have been determined. Some sites exhibited distinct boundaries while others were simply too large to estimate reliably given the limited field time. The limits of site boundaries were established by the crew chiefs with input from the crew members. Detailed searching for artifact limits, artifact concentrations and features by all crew members increased the efficiency and accuracy of site boundary determinations. Artifacts located by the survey crew were flagged to insure that the actual limit of the surface scatter was located. A relatively large amount of time was spent examining the site to insure the limits of artifact occurrence were located as accurately as possible. Whenever possible every artifact observed on the surface was flagged and the crew continued this activity until no unflagged artifacts remained. This generally took longer for historic sites than for prehistoric, and longer for sites in thick ground cover than for those with sparse cover. It is felt that this allowed the most accurate site boundary estimate without systematic subsurface disturbance which was generally forbidden by the land-owners.

Once site limits, concentrations, and features were located, and all criteria for constituting a site had been fulfilled, careful attention was given to recording the site by construction of a scale map. Once the dimensions and configuration of the site were established, special attention was given to areas of differential artifact density and to individual features and their shape.

A datum point (marked with a permanent stake) was established on each site and used as a reference point for mapping the site. This datum point was centrally located whenever possible. Datum reference stakes for sites consisted of lengths of metal pipe that were driven into the ground; only several inches of the pipe were left above the ground surface. In addition, all sites were marked with a site identification tag. This marker consisted of a metal sheet (approximately 4 x 6 in) embossed with the official site number. It was placed in a visible area near the site (such as on a fence post or tree at eye level above the ground). The site label was precisely located relative to the site reference datum, and its location marked on the site map. Thus, positive site identification and relocation of the site reference datum will be possible in the future. Once the datum had been established, crew members walked in radii to the predetermined site boundaries and features, so that the site could be mapped. The mapper at the datum point used a compass to ascertain the azimuth of each mapped artifact or perimeter boundary. Distances to each point were paced back to the mapper at the datum. Each map was drawn to an appropriate scale and included site orientation (e.g., east of north), size, configuration, material concentrations, and boundaries, along with all natural and cultural features.

Photographs for all sites were taken emphasizing those features that provide environmental, historical, temporal, or functional information about a site. Where possible, at least one local individual was interviewed about the site to provide some accompanying historical information. Sites were recorded on standard University of Texas at Austin site survey forms. Examples of this and other forms used during the project are included in Appendix A.

Because artifact collecting acts as a destructive force upon cultural resources, collecting was limited to selected diagnostic artifacts. No attempt was made to secure a large sample of artifacts from any particular site. Instead, counts of artifact types were made on the survey form and only diagnostic artifacts collected. This often resulted in several hundred artifacts being recorded as present on a site, none of which were collected. All records and artifact collections are currently stored at the ECI facilities in Dallas and will ultimately be curated with an appropriate agency at the conclusion of the project.

Site Recording Procedures--Standing Structures Sites

The presence of significant and potentially significant structures in the project area necessitated reevaluation of the field methodology in the early stages of the survey. In the fall of 1980, when it became apparent that a systematic recording procedure for standing structures was necessary, the field methodology was revised, and field crews were trained in the recording of standing structures as well as archaeological remains. For cost effectiveness, a windshield photographic survey was conducted for those standing structure sites whose archaeological remains had already been documented, but whose standing structures had not been documented at the time of the survey. Although a stopgap measure, this approach provided at least preliminary information to determine whether it was necessary to re-record the site in more detail to determine its architectural significance. For those buildings identified in the windshield survey whose sites had no archaeological remains, and thus were not recorded in the field survey, site maps showing relative building placements were prepared from the most recent aerial photographs available.

The field methodology was revised, as mentioned above, to include floor plans of the house (paced and drawn to scale) and site plans including illustrations of both the exterior building shape and roof and ridge lines. A brief description of the structures was included on the site form, and minimal photographs were taken for each site. Minimal photographs are defined by Baird and Shaddox (1981:14) as 1) photographs that illustrate the relationship of buildings to each other and to the site as a whole, 2) two photographs of opposing corners (each showing two adjacent elevations, and together showing all four sides of each building), and 3) one straight-on shot of each elevation that has an opening (window, door, etc.). These photographs were taken for all sites (except those recorded in the windshield survey).

Access to the interior of most structures was limited, related either to landowner and/or lessee restrictions or to the conditions of the buildings; therefore, most floor plans recorded show few or no interior features. However, even exterior plans which show fenestration patterns and door openings are helpful in determining the building's type and significance.

Sites were recorded on University of Texas at Austin site forms in the same manner as archaeological sites. Where both archaeological and structural artifacts (buildings) were present, both types of features were recorded, and the site was included in both the historic archaeological and historic architectural analyses. Descriptions of buildings on the site form included type of construction, style, approximate age, aspect, and site type and/or function in addition to a brief description of the buildings when such information could be obtained during the field survey. Whenever possible, the owner of the tract or some other knowledgeable person was asked about the age of the site/buildings, or whether they had knowledge of the site's former residents. Information thus obtained was recorded on the site form as well.

Archaeological field crew members had no prior historical or architectural experience, and thus training procedures had to be devised to instruct them in recording standing structures. It was not practical, however, to send a separate architectural recording crew to each site because of the increased travel and field time expense, so training procedures and materials were developed by the architectural historian and the architectural assistant. Training initially consisted of two lectures with slides, one presented in January and the other in February, 1981. Topics covered in the lectures included the process of adequately documenting a building, recognition of folk building types expected to be encountered in the survey area, discussions of folk and vernacular

building, and the research potential of documenting buildings for explaining material culture patterns of the nineteenth and twentieth centuries.

The method for recording buildings as a part of systematic field studies proved to be successful in meeting the goal of increased cultural resource information without substantially increasing costs. Time and budget limitations, however, did necessitate some compromises that should be mentioned here for purposes of planning future projects. First, it would be most helpful to have at least one person familiar with folk and vernacular rural landscapes as a part of each crew. This would result in increased continuity between the field observations of the crew and the more experienced, specialized knowledge of the architectural historian which is necessary for determining the significance of sites with buildings. This person would not have to be a historian or someone from one of the related historical fields; a crew member with experience on other projects where structures were recorded and analyzed, or who has a special interest in architecture could fulfill this function. Second, both photography and site form recording should be done at a more-than-minimal level. The time spent in recording a building is well spent because virtually no systematic recording of "ordinary" structures has been carried out in Texas to date, and Texas is rapidly losing its historic landscape to urban development, various large-scale earth moving projects, and the natural processes of deterioration. The extra field time expended in recording a structure in the field is nearly matched by time spent in the office during the analysis phase attempting to reconstruct the details of a site from too-scanty records. Better survey information also would result in recommending fewer sites for further research in the testing phase. A similar cultural resources study conducted during approximately the same period by ECI (Skinner et al. 1981) using an expanded recording format supported this assertion. The expanded standing structures recording procedures used in that survey resulted in a significantly shorter turn-around time for the survey report and more precise recommendations of historical and architectural significance.

Historical Research

Historical research on the Lake Ray Roberts project was divided into two parts: historical background research using secondary source materials, and oral history interviewing. The goal of background research was threefold: to identify potentially significant historical sites known to be present in or near the project area, to assemble historical information useful in determining the significance of sites identified in the survey phase, and to provide contextual information useful in interpreting those sites. Oral history interviewing provided localized historical information and folklife data, both of which are not usually obtainable from secondary sources, but which are necessary in evaluating site significance using the criterion of "local historical significance."

Usually, historical research is conducted in a project of this nature by a single historian or architectural historian. There are several excellent reasons for this, the first of which is that much valuable "intuitive" information about how one source relates to another can be lost if more than one historian each reads different parts of the total material available on a topic. Second, the process by which historical research is conducted is largely idiosyncratic; that is to say, such things as note-taking formats, preliminary footnoting, and filing procedures vary from one researcher to another. This makes it difficult to follow another researcher's "trail" to find out what sources or parts of sources he or she read or chose not to read. However, cultural resources management studies demand a more flexible approach to historical research because of the time constraints usually involved in any single phase of a project, and the long time lapse that can sometimes occur between phases of a project. These constraints are

aggravated because to date, CRM project schedules have almost always been based on the amount of time necessary to complete archaeological activities or architectural documentation, without regard for the linear temporal requirements of historical research. This may, in fact, be partly responsible for the limited and generalized historical investigations that often accompany detailed archaeological analyses in cultural resources studies.

Rather than limit historical research in the Lake Ray Roberts study, however, research procedures were developed to overcome (inasmuch as possible) the above-named difficulties. A standardized research format was devised for research note cards, file labels, and bibliographic information. In addition to standardized secondary research procedures, an oral history procedures manual was developed, tape logging and description forms were developed, and generalized and site-specific interview questions were formulated for use in oral history interviewing.

To get around the problem of information being lost when historians leave a particular phase of the project, each historian was required to submit a preliminary text synthesizing the material he or she had worked with. In this project, preliminary texts were produced that encompassed the secondary historical material for Denton County, secondary historical materials for Cooke and Grayson counties, and primary information gained through interviewing. These texts were then integrated by the senior historian on the project into a single project-area history and a discussion of the historical hypotheses developed for the research design. After the integrative text was completed, it was submitted to each original author for corrections and suggestions. Such an "interactive" approach, although not unusual in the cultural resources and archaeological fields, is a radical departure for historians. On this project however, it seemed to work reasonably well, and certainly more new information was collected and a more comprehensive project-area history was produced than is usually the case.

Historical Background Research

Secondary research on the history of the Lake Ray Roberts project area was conducted primarily at the Emily Fowler Public Library Local History Collection in Denton, Texas; the North Texas State University Library; and the Dallas Public Library Texas History and Genealogy Collections; and local history collections in Cooke and Grayson counties. Secondary sources consulted included county and local histories (both published and unpublished), historic maps, and scholarly works pertaining to the research problems.

Oral History Interviewing

Except in unusual circumstances, interviews were taped on 90-minute cassette tapes using portable battery-operated recorders with remote microphones. A tentative list of potential informants had been prepared by the project director based on his experience in the field prior to the time oral history interviewing began. This list was supplemented by personal contacts and suggestions from project personnel, local residents, and members of the county historical commissions as the project continued. People on this cumulative list were contacted and "screened"; that is, initial contact was made so that their knowledge or memory of early-twentieth century life in the project area could be assessed. If the potential for gaining substantial information from a person seemed high, an interview was scheduled.

After an interview had been conducted, the resulting interview tape was "logged" to make the information contained on the tape readily accessible for analysis purposes. Logging a tape is similar to creating a tape index in that a counter or stopwatch is used

to indicate where on a tape the topic under discussion changes. Tape logs are more explicit than tape indexes, however. Where indexing indicates what was talked about and who said what, a tape log indicates the substance of the information, either in a short direct quote or in summary form as well as indicating who said it. Thus tape logging serves as an expedient alternative to direct transcription of interviews.

Direct transcriptions of interviews are more desirable for research and archival purposes than are tape indexes or logs, because more information is available to the next researcher who uses the material. However, in a project with time and budget constraints, the creation of tape logs serves a dual purpose. In addition to creating a record of what information is contained on a tape, it gives the interviewer a chance to review the material in detail, which then makes it easier to synthesize the material from all the tapes into a historical narrative encompassing the project area. Oral history tapes and tape logs will be archived in the Emily Fowler Public Library Oral History Collection in Denton, Texas, and will be available to qualified researchers.

In composing an historical narrative from the oral history information, all information was treated as "truth." Allen and Montell (1981: 67-88) identify seven internal and four external tests of validity for oral history information. However, the constraints of this project did not allow even for the most common validity test, that of obtaining confirmation from a second informant before using the information. Therefore, as reiterated in the introduction to the project area history, this information should not be used in other contexts until further validation techniques have been applied.

It is the position of some historians that information that has not been validated should not be published because of its potential for misuse as factual data. However, in an area where the cultural landscape is scheduled for destruction, and the communities in and around the project area will be radically disrupted, the aim of cultural resources studies is to collect information that would otherwise be lost. This includes oral history information about folklife in the area in the early twentieth century, since this information is necessary to determine the local historical and cultural significance of sites in the project area, and no secondary sources are available that include this information. Further, elderly informants who possess this information are themselves a non-renewable resource, and the potential pool of information grows smaller every day as these people die, or as their memories lose their clarity.

Therefore, oral history was included as an invaluable segment of historical research in the design of this project. Once collected, it was felt that the information was likely to be validated more quickly if it was readily accessible to people in the community, since this report will eventually be public information. In addition, it was deemed necessary to provide as tight a contextual background as possible from which to determine and discuss the significance of individual sites, and this contextual background was enriched by the insights of the people who had been present during its occurrence.

VII. SURVEY RESULTS

Introduction

This chapter presents the results of the Lake Ray Roberts survey in respect to the research goals originally set forth in the research design chapter. Previously, it has been noted that the primary research concerns have been with cultural-historical synthesis, settlement pattern reconstruction, and landscape analysis for all phases of the prehistoric and historic occupation of the Lake Ray Roberts area. The initial sections of this chapter are limited to a description of the types of sites found by the survey and a synchronic analysis of the various settlement patterns for each phase within the prehistoric and historic periods. The final sections of the chapter are devoted to a discussion of the project area historic periods, a landscape analysis of the project area, and an examination of the demographic and settlement changes that occurred within the project area.

The cultural resources investigation of the Lake Ray Roberts area has resulted in the location and recording of a total of 355 sites of both archaeological and historical interest within the survey area. Of these sites, 90 contained prehistoric occupations only, 238 contained historic occupations only, and 27 contained materials of both periods.

Of the 117 sites with prehistoric remains, 40 appear to be single component sites, 22 have been initially evaluated as multiple-component sites, while 55 are undated. The prehistoric sites have been typed according to both hypothesized temporal period of occupation, and hypothesized site function. The following description of the prehistoric sites at Lake Ray Roberts presents the functional site types and explains how these were generated.

Of the 265 sites with historic remains within the Lake Ray Roberts survey area, 142 are completely archaeological in nature, 102 are standing structure sites with potential archaeological remains, 5 are bridge remains, 14 are cemeteries, and 2 are combination structure complexes and cemeteries.

The archaeological sites were divided into three time periods: 1850 to 1875, 1875 to 1935, and 1935 to 1980. Many historic archaeological sites contained components from two or more of these periods. These components were further divided by site function, with the major functions being farms, wells, and dumps. Cemeteries do not fit as "true" archaeological or architectural sites. Because of their significance to the study area, cemeteries herein account for historic sites that are non-architectural. The standing structure sites were examined independently of the other sites, and their architectural value examined.

Prehistoric Sites

An essential part of any type of settlement analysis is the estimation of specific site function and an accompanying evaluation of the way in which clusters of sites functioned together as a cultural system. In the past, site typologies have been developed based on a number of variables depending upon the specific sites which were being dealt with. The most successful typologies have dealt with site hierarchies associated with more advanced cultural systems, and have subjectively been based upon variables of size, architecture, and artifactual complexity (see for example: Willey 1953; and MacNeish et al. 1975). In contrast, typologies for less advanced hunting and gathering societies have been less successful, probably related to a less developed site

hierarchy of function for these societies. Apparently, in these latter cases, site functions overlap to a sufficient degree so as to blur all but the most obvious site differences. Thus, the most successful functional distinction between sites on this level of social development has consistently been between what are viewed as large, permanently occupied base camps with a wide range of functions, and small, limited occupation sites with single functions. Once this distinction has been made, site clusters can be examined in regard to their fitting one of the two prime models of settlement on this simple social level: the restricted wandering community model, or the central-based wandering community model (Beardsley et al. 1956).

Usually, site typologies for simple societies follow the lead set by Willey (1953) and others for more advanced societies, and make use of site size as a primary variable in determining site function, despite the fact that all too often, site size is not a function of prehistoric occupation, but instead is the result of current land-use patterns and erosion. Microenvironmental location is often used to elaborate or define site function as well, but sometimes this variable is unreliable because of changes since the period of prehistoric occupation. All too often the use of environmental variables for examining prehistoric settlement has resulted in spurious conclusions such as "water was of prime importance to early man," or that "soil type accounts for a small proportion of the variability discerned in site location."

For the sample of 117 sites with prehistoric remains located within or close to the Lake Ray Roberts area, a somewhat different approach was used. Initially, site types were defined solely on the basis of the artifactual assemblage present, while ignoring variables of size and location. While the artifactual material present on the surface of a site is as much the result of preservation and modern land-use as is site size, the effects of modern land-use practices are not as serious or as potentially disrupting in regard to the overall artifactual assemblage present on the surface. Indeed, it is often the case that the more disturbed a site is by modern plowing or gravel quarrying, the large and, thus, more representative the overall surface artifact sample is, although estimations of site size and internal structure are certainly less reliable. Likewise, it has been assumed here that the small amount of surface material associated with relatively undisturbed sites may be considered as representative of the subsurface assemblage, taking into account the normal skewing effect of a small sample size. For this reason, artifact assemblages from each site were converted to percentages and compared using simple cumulative graphs. To do this in some meaningful manner, the list of artifact types observed on the surface of the prehistoric sites was rearranged into artifact clusters relating to specific cultural activities; for definitions of all the types used, see Appendix 1. As presented in Table 7-1, primary flakes, secondary flakes, and quarry blanks are considered to be part of the activity of primary lithic reduction and are placed consecutively on the list as artifact types 1, 2, and 3. In a similar manner, artifact types 4, 5, 6, 7, and 8 (respectively, interior flakes, biface thinning flakes, bifaces, cores, and hammerstones) are clustered together as relating to tool manufacture, despite that fact that there is some overlap with primary lithic reduction in regard to the presence of cores and hammerstones. Two sites, 41DN96 and 41CO129, were excluded, as the prehistoric material on these sites consisted only of a single flake within a larger scatter of historic artifacts.

Following the initial clustering of site types on the basis of visual similarity on the cumulative graphs, the types were more formally defined on the basis of two overriding criteria: (1) the range of subsistence activities present at the site on the basis of the artifactual assemblage present (i.e., hunting, musselling, collecting, etc.); and (2) the type of lithic reduction which was prevalent on the site (i.e., primary reduction, secondary reduction, etc.). The result of this operation was the definition of 21 site

Table 7-1.

**List of artifact types and associated
cultural activities used for initial
site type definitions**

Artifact Type	Cultural Activity
1. Primary Flakes 2. Secondary Flakes 3. Quarry Blanks	Primary Lithic Reduction
4. Interior Flakes 5. Biface Thinning Flakes 6. Bifaces 7. Cores 8. Hammerstones	Tool Manufacture
9. Projectile Points	Hunting
10. Milling Stones 11. Manos	Collecting
12. Mussel Shell	Musselling
13. Retouched Flakes 14. Sidescrapers 15. Endsrapers 16. Other Scrapers 17. Gravers 18. Denticulates 19. Other Tools 20. Bone Tools	General Maintenance
21. Ceramics 22. Miscellaneous Bone 23. Charcoal 24. Fire-Cracked Rock	Cooking
25. Ceremonial, Leaf-shaped Bifacial Blades 26. Burials	Social Interaction

types (or possibly sub-types) which have been labeled alphanumerically (Table 7-2). It was expected that this initial "splitting" typology would allow a more reliable "lumping" of functional types at a later point using more traditional variables of size and location. In only one case, that of Types 3c and 3d, was a type distinction made based other than on these variables. In this case, the distinction was made on the basis of a preponderance of fire-cracked rock being present at Type 3d. What follows is a verbal description of the range of variability present in each of these initial types, along with their defining characteristics.

Prehistoric Site Type 1

As can be seen from Table 7-2, the defining characteristics of this type are the presence of primary, secondary, and tertiary lithic production, as well as evidence for the presence of all types of subsistence activities. In general, primary and secondary flakes are present in a combined percentage of less than 30% (and often less than 20%). Interior and biface thinning flakes are generally present in proportions of about 50%, although in one case, all four types of flakes comprise less than 10% of the total assemblage. Projectile points are often present, along with grinding implements and mussel shell. In almost every instance, some evidence of general maintenance activities and cooking was found on the surface of the site.

Nine sites have been classified as Type 1, including 41DN102, 187, 188, 17; 41CO67, 94, 95; and 41GS65 and 72. They range in size from a minimum of 0.02 ha to a maximum of 3.02 ha, with the mean being about 0.62 ha. The standard deviation is about 0.92, and, if the minimum size site (41CO67) and the maximum size site (41DN102) are omitted, the mean size changes to about 0.36 ha and the standard deviation changes to 0.19. All of these sites are situated on lower terraces very close to water sources in the form of the larger creeks. All except 41DN17 are located along the Isle du Bois drainage in the eastern part of the study area. These sites were initially judged to be central base camps (macroband camps) and were assumed to have been occupied on a nearly permanent basis. In light of the size differential, however, it seems more likely that these sites represent seasonally reoccupied camps (possibly base camps) with some areas, such as 41DN102, being repeatedly reoccupied on the same spot, while others, such as the area of 41DN187 and 188, were reoccupied only in the same general area.

Prehistoric Site Type 2a

The defining characteristics of Type 2a are the presence of largely secondary and tertiary reduction activities, with some primary reduction being present; plus evidence for both hunting and collecting activities. Primary flakes are present in proportions of less than 25%, and are usually less than 10%. In contrast, secondary and interior flakes are usually present from 60 to 70%. The remainder of the assemblages are usually made up of cores and hammerstones, projectile points, a few general maintenance tools, occasional ceramics, and small amounts of fire-cracked rock.

Twelve prehistoric sites are typed as belonging to Type 2a, including 41DN159, 41CO17, 18, 29, 71, 124, and 126; and 41GS48, 64, 73, 90, and 93. These sites range in size from a minimum of 0.07 ha to a maximum of 0.96 ha, with a mean of 0.37 ha and a standard deviation of 0.26 (it should be noted that this mean value is very close to the mean size of Type 1 sites excluding the inordinately large 41DN102 and the very small 41CO67). Like the Type 1 sites, almost all of these Type 2a sites are located on lower terraces close to the large stream channels. The one exception to this general observation is 41GS90, which is located on an upper terrace, some distance from Range Creek. These

Table 7-2.

Preliminary prehistoric site types based upon lithic reduction technology and subsistence used to define functional site types (see Table 7-3)

Type of lithic Reduction Technology Present	Main Subsistence Type Present				
	None	Collecting	Musselling	Hunting	Hunting and Collecting
None				3f	
Primary	6e			3e	
Secondary	6d				
Tertiary			4d		2d
Primary & Secondary	6c	5	4c		
Primary & Secondary (with some Tertiary)	6b		4b		2c
Primary & Tertiary (with cooking)			4a	3d	
Primary & Tertiary (without cooking)				3c	
Secondary & Tertiary				3b	2b
Secondary & Tertiary (with some Primary)					2a
Primary, Secondary, & Tertiary	6a			3a	
					1

sites are believed to be seasonally reoccupied campsites or macroband base camps, like the Type 1 sites, in view of their similarity in size and location. The decreased variability in artifact assemblage present at these sites may be a function of either a less intensive pattern of seasonal occupation, or occupation during a different season of the year, with slightly differing functions.

Prehistoric Site Type 2b

This type of site is characterized by the presence of secondary and tertiary lithic reduction, with no primary reduction present at all, along with evidence for both hunting and collecting subsistence activities. As noted above, no primary flakes are present in Type 2b sites, and the proportion of secondary flakes varies from 5 to 35%, with most of the sites having around 20 to 25% secondary flakes. The bulk of the artifact assemblages at most of these sites is made up of interior and biface thinning flakes, which are usually from 40 to 50% of the total artifacts present. Also present in small amounts at most of the sites are grinding implements, projectile points, cores, and hammerstones. The presence of fire-cracked rock along with occasional miscellaneous bone and charcoal at a majority of these sites indicates that cooking activities also occurred. No general maintenance tools were noted at any of these sites.

Type 2b consists of eight prehistoric sites and includes 41DN219; 41CO85; and 41GS67, 68, 69, 71, 85, and 88. These sites range in size from a minimum of 0.13 ha to a maximum of 1.53 ha. With the exception of 41DN217 and 41GS69, however, the range of the other six sites falls within 0.13 to 0.21 ha. Thus, with 41DN217 and 41GS69 included, the mean site size is 0.41 ha and the standard deviation is 0.50, while if these sites are excluded, the mean site size is only 0.17 ha and the standard deviation is 0.03. Nothing sets the artifact assemblage recorded for 41DN219 and 41GS69 apart from the remaining six sites in this type, and it is felt that this size discrepancy may be accounted for by the possibility that both of these sites are actually two overlapping seasonal occupations. The structure of site 41GS69 suggests this, as it is composed of two artifact concentrations about 130 m from center to center. As with the two previous types of sites, Type 2b sites seem generally to be located close to water on major streams, and on lower terraces. All except one of these sites is located in Grayson County, with the majority, four, along Buck Creek and the other two located on Range Creek. The last site is located along the upper reaches of the Elm Fork in an area notable for its scarcity of prehistoric material. Thus, while Types 1 and 2a sites overlap almost exactly in distribution, Site 2b overlaps only partially with the other two types. It is possible that this pattern is the result of temporal differences in site occupation as opposed to functional differences, because three-fourths of these sites, which can be identified by occupation, date to the Neo-American period. In light of the small size for most of these sites, but the otherwise similarity in location and artifact assemblage to the Type 2a sites, Type 2b sites are suggested to be microband seasonal campsites.

Prehistoric Site Type 2c

As with the previously discussed Type 2 sites, Type 2c sites are characterized by evidence for involvement in both hunting and collecting subsistence activities. However, they only show evidence for primary and secondary lithic reduction, with only a relatively small amount of tertiary reduction and tool manufacture, indicating a possible functional distinction between this type and the other Type 2 sites. All of the Type 2c sites show over 50% primary and secondary flakes, and in a few cases, this figure rises to 80%. Rarely does the proportion of interior flakes exceed 30%, and

biface thinning flakes are almost never present in proportions of more than 10%. A few of these sites contain cores and hammerstones, projectile points, and a small percentage of general maintenance tools. Indications of cooking activities in the form of ceramics, bone, and fire-cracked rock also are present at several of these sites.

In all, 11 sites have been classified as Type 2c sites, including 41DN99, 115, 148, 173, and 210; 41CO11, 28, 55, 60, and 93; and 41GS92. Site size for Type 2c sites is extremely irregular, ranging from a minimum of 0.01 ha to a maximum of 2.60 ha, with a mean of 0.57 ha and a standard deviation of 0.94. It actually appears that Type 2c sites have two size ranges, the first from 0.01 ha to 0.48 ha (with a mean of 0.15 ha and a standard deviation of 0.14), and the second includes two sites with surface areas of 2.32 and 2.60 ha, respectively. No discernable difference in artifact assemblage is apparent, and this dichotomy may be either the result of overlapping seasonal reoccupations, or differences in the size of the social group occupying the sites. Internal evidence of the structure of 41DN99 (the 2.60 ha site) suggests that the former may be the case, and that Type 2c sites represent seasonally reoccupied microband campsites. Type 2c sites appear to be confined to the edges of the lower terraces, very close to the major stream systems. All but two of these sites are located along either the Isle du Bois or the Elm Fork. The other two sites are located along Wolf Creek and Range Creek, both of which appear to have been important prehistorically.

Prehistoric Site Type 2d

As with the other Type 2 sites, Type 2d sites appear to be associated with both hunting and gathering subsistence activities, but in contrast to the other Type 2 sites, these sites contain no evidence of either primary or secondary lithic reduction. Both primary and secondary flakes are absent from every one of the Type 2d sites, and the bulk of the site assemblages is composed of interior flakes in almost every case (the single exception is a site containing a very limited sample composed of only biface thinning flakes). The proportion of interior flakes per site ranges from 75 to 100%. Other types of artifacts associated with Type 2d sites in low proportions include bifaces, cores, projectile points, grinding implements, an occasional general maintenance tool, and charcoal.

Thirteen sites have been classified as Type 2d sites, including 41DN80, 87, 152, and 156; and 41CO19, 35, 45, 49, 54, 70, 74, 79, 99. The variation in site size shown by these 12 sites is unusual in light of the relative consistency of the site types discussed so far. They range in size from a minimum of 0.002 ha to a maximum of 0.51 ha, and have a mean of 0.17 ha and a standard deviation of 0.19. This range of variation in terms of site size appears to be real, and is not related to one or two very large or very small sites. Presumably, this variation in size is related to either a wide variation in the size of the social groups occupying the sites or a pattern of very limited occupations which are repeated in some cases but not in others. In light of the small sample sizes from almost all of these sites, the latter would seem to be the best explanation. The mean size of these Type 2d sites is the same as that for what have previously been termed microband seasonal camps, suggesting that these sites served a similar function. Type 2d sites also show a wider range of variation in site location than do the site types previously discussed. While the bulk of these sites are located along the same watercourses as most of the site types discussed earlier, several are situated along smaller watercourses which may have been more seasonal in nature. Interestingly, the prime examples of the latter are 41DN80 and 41DN152, which are at the upper limit of the size range for this type of site (0.51 ha and 0.50 ha, respectively). It may be that their larger size and location on smaller watercourses are related, indicating a pattern

of seasonal reoccupation only in those areas with limited choices in regard to site location.

Prehistoric Site Type 3a

Type 3a sites are characterized by the presence of evidence for primary, secondary, and tertiary lithic reduction activities, as well as evidence for primary focus on hunting as a subsistence base. It also should be noted that the majority of Type 3a sites also show the presence of varying amounts of fire-cracked rock indicating cooking as a primary activity. The percentages of primary and secondary flakes present on these sites varies from less than 20% to more than 65%, but the majority of these sites contain around 50% primary and secondary elements. For the majority of these sites, the interior and biface thinning flakes make up between 10 to 35% of the total assemblage, but in several cases this figure is as high as 65 %. The remainder of the assemblage at several of these sites is made up of projectile points, with an occasional hammerstone or sidescraper.

Ten sites have been placed within the Type 3a category, including 421CO50, 56, 57, 72, 73, 91, 97, 106, and 125; and 41GS62. The sizes for these sites range from 0.01 ha to 0.45 ha with a mean size of 0.17 ha and a standard deviation of 0.15. This mean is equivalent to the overall mean of 0.17 ha for what has been consistently called microband seasonal camps, and apparently this type also should come under that general term. All of these sites fall into the existing pattern for site location already discerned, being located along the major watercourses on the lower terraces. In effect, they almost all fall within existing clusters of macroband base camps and microband seasonal camps.

Prehistoric Site Type 3b

Like other Type 3 sites, Type 3b sites give indications for being used for hunting activities, but lack all evidence for primary lithic reduction, showing only secondary and tertiary reduction activities. Thus, none of the nine sites classified as Type 3b contain any primary flakes. The proportion of secondary flakes, however, fluctuates from less than 10% to more than 70%, while the percentage of interior flakes varies inversely, from less than 20% to more than 90 %. Interestingly, none of these sites were noted to contain any biface thinning flakes and only one contained any bifaces. Several of the assemblages contained cores and projectile points, however. No indications of any activities other than lithic reduction, tool manufacture, and hunting were noted at these sites.

As noted above, nine sites have been classified as being of Type 3b, including 41DN169; 41CO26, 52, 76, 100, and 123; and 41GS63, 81, and 96. These sites are all very small, ranging in size from 0.003 ha to only 0.06 ha, with a mean of 0.02 ha and a standard deviation of 0.02. Judging from the limited size and artifact assemblage of these sites, they apparently were limited entirely to hunting activities and used for a very limited period of time. Functionally, they may be described as hunting stands, or hunting stations. These sites show a moderate degree of variability in regard to location. In some cases, they are located on low terraces or rises close to major water sources in the same kind of situation that characterizes what are apparently more permanent seasonal campsites or base camps. In many instances, however, they are located farther away from water sources on the higher terraces and upland slopes, presumably a reflection of their more limited occupation and decreased concern with reliable water sources.

Prehistoric Site Type 3c

The defining characteristics for these sites seems to be the presence of both primary and tertiary lithic reduction activities, with absolutely no evidence of secondary reduction. Hunting seems to have been the sole subsistence pattern at these sites, and none of them show any evidence of cooking activities in the form of fire-cracked rock. Primary flakes are present in proportions of from about 15 to 40%, while interior and biface thinning flakes comprise between 25 and 75% of the artifact assemblage. The only other artifacts present on these sites are an occasional biface, core, or projectile point.

Six sites have been determined to belong to this type, including 41DN85 and 180; 41CO20, 23, and 24; and 41GS102. These six sites range in area from 0.01 ha to 0.78 ha. The upper limit of this range is set by site 41CO20 (0.78 ha), with the next largest site being only 0.06 ha in area. Including 41CO20, the mean size for Type 3c sites is 0.16 ha with a standard deviation of 0.30. Excluding this inordinately large site, the mean size becomes 0.04 ha, with a standard deviation of 0.02. The large size of 41CO20 cannot be adequately explained at present, but there would seem to be two possible explanations. Either this location was reoccupied several times, increasing the surface area of the site, or the site is mistyped. At the present, there are little data to use in choosing between these two possibilities. The limited artifact assemblage argues for the former, but the site's location may indicate the latter is the correct explanation. Site 41CO20 is the only one of the six which is located on a mainstream channel, being very close to Isle de Bois Creek. All of the others, with the exception of 41GS102, are located at higher elevations, on the edge of the uplands. Site 41GS102 is located on the edge of a lower terrace, close to Buck Creek. It may be that all of these sites are functionally the same, the only difference being one of seasonality of occupation, with the two sites located close to water being reoccupied seasonally during the dry season. Judging from the size and location of the majority of these sites, they seem to represent hunting stands, or stations occupied (or reoccupied) by small groups on a very limited basis.

Prehistoric Site Type 3d

This type of site shows a similar concentration on hunting activities, and shows primary and tertiary lithic reduction in common with Type 3c sites, but appears to have been occupied on a more long-term basis, as evidenced by the presence of fire-cracked rock on the surfaces of these sites. Fire-cracked rock makes up from 30 to 50% of the contents of these sites, with the bulk of the remainder composed of primary flakes, interior flakes, and projectile points.

Only two sites have been typed as Type 3d sites: 41DN84 and 41DN149. The former site is located on the edge of an upper terrace and is 0.11 ha in area, while the latter is situated on a lower terrace, close to the Elm Fork and is 0.14 ha in area. The mean size for these two sites is 0.125 ha, and this type would seem to fit closest with the microband hunting camps (Type 3a).

Prehistoric Site Type 3e

Only one site, 41GS60, has been classified as belonging to this type and, while the existence of a type with only a single example may be questioned on theoretical grounds, the assemblage pattern does not fit in any other type. The prehistoric remains at 41GS60 consist solely of primary flakes and one projectile point within the limits of a larger historic artifact scatter. As a result, the area of the prehistoric scatter is

indeterminate, but the sparseness of the prehistoric remains indicates the site should be viewed as a hunting stand or station with an area presumably close to the 0.02 to 0.04 ha size, which seems to be usual for that type of site. The site is located on the edge of the uplands above the south bank of Buck Creek.

Prehistoric Site Type 3f

This type is represented by a single example consisting of a projectile point fragment associated with a presently occupied farmsite, 41CO47. As such, it should probably be considered as an isolated find rather than a site, but the possibility exists that the site was originally a limited occupation hunting stand or station which has since been disturbed by the modern occupation. Because the type consists of only a single site with a single artifact, no idea of size range is possible. The site is located on the edge of an upper terrace above Indian Creek, and presumably was associated functionally with the cluster of prehistoric sites in that area.

Prehistoric Site Type 4a

This type, as well as the next three types, are all characterized by varying degrees of reliance on "musselling" or mussel collecting as the primary subsistence activity. Beyond this characteristic, Type 4a sites are characterized by the presence of only primary and tertiary lithic reduction activities, with some evidence for cooking and general maintenance activities. Primary flakes are present only in proportions of less than 5%, while interior and biface thinning flakes vary from less than 5% to more than 25% of the assemblage. Undoubtedly, the low percentages for these artifacts are a direct result of the high proportions of mussel shell fragments noted on all these sites. These figures vary from 50 to 90% of all observed prehistoric remains. The remainder of the assemblages at these sites is composed of varying amounts of bifaces, cores, hammerstones, projectile points, grinding implements, general maintenance tools, and ceramics. All in all, this assemblage seems to indicate a uniform pattern of seasonal reoccupation for moderately long periods of time.

Three sites have been classified as Type 4a sites, and these include 41DN101, 112, and 150. Their size range includes 0.13, 0.61, and 0.36 ha respectively, with a mean size of 0.37 and a standard deviation of 0.24. This size range would seem to place these in with what have been elsewhere called macroband seasonal base camps (Types 1 and 2a), indicating the extreme reliability of mussel collecting as a prehistoric subsistence activity in the Lake Ray Roberts area. All of these sites are located along the Elm Fork in the southern part of the project area, on low terraces, very close to the mainstream channel.

Prehistoric Site Type 4b

This type, represented only by site 41DN175, shows an extremely high proportion of primary and secondary lithic reduction activities, with only a moderate amount of tertiary reduction. By frequency, primary and secondary flakes account for over 65% of the observed prehistoric remains on the surface of this site. The remainder of the assemblage is made up of a projectile point tip, mussel shells, and miscellaneous bone fragments.

Site 41DN175 measures 0.36 ha in area and seems to fit well with the other sites which have been collectively referred to as macroband base camps (Types 1, 2a, and 4a). In fact, the main difference between this type and Type 4a is the higher proportion of

primary and secondary flakes. Site 41DN175 is located at the edge of a lower terrace moderately close to the mainstream channel.

Prehistoric Site Type 4c

This type of site is characterized by a primary reliance on musselling activities, but show no evidence for tertiary lithic reduction activities. For all of these sites, there is only evidence for primary and secondary lithic reduction activities on the site. They all show between 15 and 30% primary flakes, and the majority contain from 7 to 35% secondary flakes. Likewise, they all show the expected presence of mussel shell fragments, and a moderate to very high proportion of fire-cracked rock, indicating that cooking was of prime importance at this type of site. In addition, they show varying amounts of bifaces, cores, hammerstones, projectile points, and grinding implements.

Four sites have been classified as Type 4c sites, including 41DN103, 197, and 199; and 41CO134. They range in size from 0.06 ha to 0.49 ha, with three of the four (41DN197, 41DN199, and 41DN134) being within the range of 0.06 to 0.09 ha. This discrepancy in size would seem to indicate a functional similarity, but with a serious difference in the size of the social group occupying the site, or in degree of seasonal reoccupation. The variability of the artifact assemblage at these sites would suggest they were more than simple limited activity stations. In the absence of other indications, the large Type 4c site (41DN103) was lumped with what has been called the macroband base camps (Types 1, 2a, 4a, and 4b), while the other three sites were referred to as microband musselling camps in light of their limited size (a mean of 0.07 ha and a standard deviation of 0.02) but elaborate artifact assemblage. All of these sites are situated in the floodplain of the major river courses, adjoining smaller drainages.

Prehistoric Site Type 4d

Type 4d sites are the last of the group which show a heavy reliance on mussel collecting as a subsistence activity. In addition, these show almost a complete association with tertiary lithic reduction activities. Primary flakes are either nonexistent at these sites or present in low proportions (less than 5%). Secondary flakes are present in higher frequencies, but never make up more than 12% of assemblage. Interior flakes are consistently present at a frequency of about 20 to 30% of the total. The remainder of the assemblages are made up of varying quantities of bifaces, cores, hammerstones, projectile points, retouched flakes, and fire-cracked rock.

Only four sites have been classified as being Type 4d sites (41DN79, 81, 82; and 41CO139) and three of these are close enough to represent seasonal reoccupations of the same general terrace edge. The size range covers about the same spread as that of Type 4c sites: 0.09 ha to 0.50 ha. Sites 41DN79, 81, and 41CO139 are at the upper end of this range, being 0.35, 0.50, and 0.32 ha respectively, while the third site (41DN82) is only 0.09 ha. They seem to fit quite well with the size differentiation of macroband base camp and microband musselling camp already discussed in relation to Type 4c sites, and have been treated the same way. In terms of site location, the larger sites are located on top of a lower terrace overlooking a small tributary of the Elm Fork, and on the floodplain next to the Elm Fork further North. The smaller site is located on the floodplain of that channel, as was the case for all of the Type 4c sites.

Prehistoric Site Type 5

Type 5 sites have been described as being characterized by collecting subsistence activities, but this is not based on evidence for such a pattern, but rather on the lack of

evidence for any other pattern. Basically, Type 5 sites (of which there are only two) are characterized by assemblages of 35 to 50% primary flakes, 25 to 30% secondary flakes, and the remainder retouched flakes. It must be pointed out that these sites also are characterized by small artifact samples.

The two sites comprising this type (41GS94 and 41GS97) range in size from 0.01 ha to 0.11 ha. This size range indicates that they were occupied by small social groups, while the limited artifact assemblage seems characteristic of very short-term, limited activity sites. These sites have been collectively referred to as collecting stations, more as a matter of convenience than as a serious designation of function. Both of these sites are located on the lower slopes on the upper reaches of Buck Creek.

Prehistoric Site Type 6a

Type 6a sites are characterized as having no evidence for any activity other than lithic reduction, of which there is evidence for the full range of reduction, from primary to tertiary. Type 6a sites are characterized by 20 to 30% primary flakes, 10 to 25% secondary flakes, and about 50 to 55% interior flakes. Also present occasionally are biface thinning flakes and quarry blanks (worked cobbles).

Three sites have been classified as belonging to Type 6a, and these include 41CO14, 41CO48, and 41CO53. They are all medium-sized sites, ranging in size from 0.19 ha to 0.30 ha, with a mean of 0.23 ha and a standard deviation of 0.06. They seem large enough to qualify as at least microband camps, but the range of artifacts is narrow, and it seems highly unlikely that they were anything other than limited occupation sites whose size results from reoccupation. In view of the artifact assemblages from these sites, they have been collectively referred to as lithic procurement sites. All three of these sites are located along Isle du Bois Creek, or one of its tributaries, in the eastern side of the project area, and would have had access to the quartzite gravels in this area.

Prehistoric Site Type 6b

Type 6b sites are characterized by a lack of any evidence for any specific subsistence activities, plus heavy indications of primary and secondary lithic reduction activities, with a small amount of tertiary reduction. The proportion of primary and secondary flakes from these sites, combined with quarry blanks, accounts for 65 to 80% of the total observed assemblages. The bulk of the remainder is accounted for by cores and hammerstones, which usually account for 15 to 25% of the artifacts.

Three sites have been placed within this type, including 41DN162, 163, and 207. They range in size from 0.11 ha to 0.38 ha, with a mean of 0.23 ha and a standard deviation of 0.14. Related largely to the limited nature of the assemblages from these sites, and the fact that they are all located on eroded gravel slopes, Type 6b sites have been placed with Type 6a sites as lithic procurement sites.

Prehistoric Site Type 6c

This type of site consists of lithic procurement sites at which the lithic reduction activity consisted entirely of primary and secondary reduction. The assemblages at these sites showed a preponderance of primary and secondary flakes, and quarry blanks which varied from being 54 to 88% of the total assemblage. The remainder of the material from these sites consisted largely of cores and hammerstones with an occasional biface and projectile point. The only exception to this pattern was at site 41DN114, which also contained some fragments of bone.

Type 6c includes seven sites: 41DN114, 160, 161, 178, 208, and 211; and 41CO90. They range in size from a minimum of 0.07 ha to a maximum of 0.39 ha and have a mean size of 0.21 ha and a standard deviation of 0.12. All of these sites are situated on the edges of eroded gravel deposits associated with terraces in the southeastern lake area, and most do not appear to be associated with anything which could be considered permanent water sources. As noted above, these sites have been considered as lithic procurement sites along with Type 6a and 6b sites.

Prehistoric Site Type 6d

This type consists of a single site which is a lithic procurement site (41CO89), but whose artifact assemblage consists only of secondary flakes. The sample is extremely small, and the site may actually be a very isolated activity area associated with the nearby site 41CO90, a Type 6c lithic procurement site. Site 41CO89 covers only 0.06 ha and is located along the eroded edge of a terrace with gravel inclusions along Wolf Creek.

Prehistoric Site Type 6e

This is the last of the prehistoric site types based upon the observed artifact assemblages, and consists of those sites which appear to be primary decortification lithic procurement sites. Samples are small at all of these sites, but they appeared to be largely composed of primary flakes in proportions of from 83 to 100% with lower percentages of quarry blanks and cores at several sites.

Only five sites have been classified as belonging to Type 6e, including 41DN89, 98, 201, 206, and 219. The sites range in size from 0.02 ha to 0.17 ha and have a mean size of 0.07 ha and a standard deviation of 0.08 (41DN201 and 41DN206 consist of single flakes associated with historic sites, and were thus not used for computing site mean area). All of these sites are located on the uplands or terraces and are associated with gravel deposits. Also, all except for 41DN98 are situated above the lower portion of the Elm Fork, below its confluence with Isle du Bois Creek. The exception to this is 41DN98 which is situated to the west of Isle du Bois Creek, several kilometers above its confluence with the Elm Fork.

Summary of Prehistoric Site Types

Based upon the previous site type discussions, the original 21 site types can be defined on the basis of artifact content and rearranged into less numerous, but hopefully more meaningful, functional types. The original types (now termed sub-types) have been reclassified into seven main types subjectively (on the basis of assumed social group size) and permanency of occupation (based on the mean area of the site sub-type and on the overall elaborateness of the artifact assemblage). Table 7-3 shows that the mean sizes for each of the sub-types within the main types is relatively uniform. Macroband seasonal base camps (Figures 7-1 and 7-2) range in mean size from 0.36 to 0.37 ha for those sites for which mussel collecting was not the primary occupation. Apparently, musselling was a more reliable pursuit, and either supported more people on a single site, or encouraged more frequent reoccupation of the same site area, since the mean size for those sites ranges from 0.39 ha to 0.49 ha (Figure 7-3). It is suggested that these sites were occupied seasonally, as the name suggests, by groups which were composed of several smaller bands (microbands). The term macroband has been adopted here, following MacNeish (1972), to apply to these groups.

Table 7-3.

Suggested function types for the Lake Ray Roberts prehistoric sites

Suggested Functional Type	Sub-Type (see Table 7-2)	Suggested Mean Size (ha)
Macroband Seasonal Base Camp	1	0.36
	2a	0.37
	4a	0.36
	4b	0.36
	4c*	0.49
	4d**	0.39
Microband Seasonal Camp	2b	0.17
	2c	0.15
	2d	0.17
Microband Hunting Camp	3a	0.18
	3d	0.125
Microband Musselling Camp	4c	0.17
	4d	0.09
Hunting Station	3b	0.02
	3c	0.04
	3e	
	3f	
Collecting Station	5	0.06
Lithic Procurement Site	6a	0.23
	6b	0.23
	6c	0.21
	6d	0.06
	6e	0.07

* Of the four sites initially classified as Sub-type 4c, one (41DN103) has been reclassified as a macroband seasonal base camp, while the other three (41DN197, 41DN199, and 41CO134) are classified as microband musselling camps.

** Sub-type 4d contains three sites, of which two (41DN79 and 41DN81) have been classified as macroband seasonal base camps, while one (41DN82) has been classified with the microband musselling camps.



Figure 7-1. Site 41CO67. Relatively undisturbed and undated macroband seasonal base camp.



Figure 7-2. Site 41GS93. Middle Archaic macroband seasonal base camp along Buck Creek.





Figure 7-3. Site 41DN31. An example of a macroband seasonal base camp with emphasis on mussel collecting, west of the Elm Fork.



Figure 7-4. Site 41DN173. A partially-deflated Neo-American microband seasonal campsite on Isle du Bois Creek.



The next type of site, microband seasonal camps (Figure 7-4), were presumably oriented toward seasonal collecting activities and were utilized by smaller social groups, here termed microbands, which collected together at the larger sites during other times of the year. The mean size for these sites is also fairly uniform, ranging from 0.15 ha to 0.17 ha for the sub-types. If we assume that individuals took up the same amount of space in both the macroband sites and in the microband sites, it may be suggested that macroband sites included from two to three microbands at any one time.

The third main type of prehistoric site has been called the microband hunting camp (Figure 7-5). Indications are that the main subsistence pursuit at these sites was hunting, but their mean sizes indicate that occupation was by microbands as with the previous type. The sub-types under this main type range in size from 0.125 ha to 0.17 ha, and fits quite well with the mean sizes for the sub-types of microband seasonal camps.

Microband musselling camps (Figure 7-6) present a problem in this neat pattern. First, the mean size for the sub-types associated with this type appears to be considerably smaller than for the other two types of microband camps; yet the artifact assemblage is varied enough to suggest more than a very short term occupation (as with what we are terming stations). Again, this may be related to the specific requirements and advantages of mussel collecting as a subsistence pursuit. It is possible that these are reoccupied musselling stations, or long-term campsites occupied by only a portion of the social group (termed a microband above) because of the decreased labor requirements for successful mussel collecting.

The next two main site types are termed stations under the assumption that they were occupied for a very short period of time in each case. Four sub-types have been classified as hunting stations (Figure 7-7) and range in mean size from 0.02 to 0.04 ha in area. It is believed that these sites were occupied by only a part of the microband social group (such as males only), for a very limited period of time (such as overnight). The same is true for the single site which has been classified as a collecting station, with a size of 0.06 ha.

The last of the main functional site types has been termed lithic procurement sites, because the main activity appears to have been raw material collection and primary reduction (Figure 7-8). The mean site size for the five sub-types of lithic workshop range from 0.06 to 0.23 ha, presumably based upon the frequency with which that particular site was visited and used. With very few exceptions, no evidence was found to indicate that any of these sites were occupied on more than an occasional basis, or that anything other than initial lithic reduction occurred there.

It is these functional site types which will be used to examine the prehistoric settlement patterns for the Lake Ray Roberts survey area.

Historic Sites

A total of 265 sites have been identified within the Lake Ray Roberts area which contain culturally valuable, or potentially valuable, historic remains, based upon either the age of the occupation, the nature of the site, or considerations of its architectural characteristics. The only distinction between historic archaeological sites and historic architectural sites is artifactual remains. The latter sites are identified based on the presence of structural remains with at least a foundation extant. Historic archaeological sites (or components), basically, are all other remains, including non-extant structural remains. Therefore, the distinction is occasionally arbitrary. To



Figure 7-5. Site 41CO56. An apparent Middle Archaic hunting camp in the uplands above Isle du Bois Creek.



Figure 7-6. Site 41CO134. A musselling campsite located in a plowed field on the flood plain of Spring Creek.

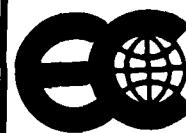




Figure 7-7. Site 41CO76. An upland hunting station east of Isle du Bois Creek.

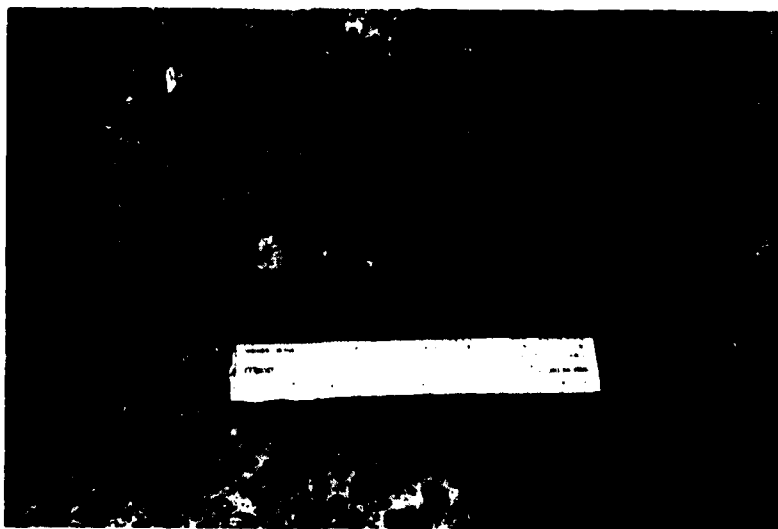


Figure 7-8. Site 41DN98. Close-up of primary lithic debris scattered among T1 gravels on this lithic workshop site.



discuss these sites, all historic sites were described in a general sense in regards to their function. This will provide an impression of the overall historical picture at Lake Ray Roberts. The historic sites are then discussed in relation to their archaeological or architectural components.

The most common type of historic site in the Lake Ray Roberts area consists of clusters of domestic agricultural structures, or the remains of such structures, herein termed farmsteads. These sites almost invariably show evidence of permanent domestic occupation during the historic period in terms of features and artifacts. Many of these sites were associated with the remains of root cellars and wells, while some even contained stone house foundations and the remains of stone walkways. Also, these sites usually showed a preponderance of what are generally considered to be domestic artifacts: china and crockery, especially tableware, eating utensils, decorated glassware, and other miscellaneous domestic artifacts such as buttons and belt buckles. A total of 200 sites contained historic components which seemed to be the result of this type of occupation. Also related to this type of occupation were less common site types such as isolated farm outbuildings and isolated wells. All of these wells are located on the east side of the project area and were originally lined with sandstone slabs, although in several cases the wells apparently had been modified later. None of these wells were associated with any artifactual material and presumably had been located far enough away from the locus of domestic activity so as to avoid association with any trash. In one instance, that of 41CO13, the well recently had been cleaned out and returned to use (the well was situated about 150 m from the house of the people using the well), and no trash whatsoever was found inside it.

In addition to these domestic farmsteads and agricultural buildings, several sites were located in various parts of the project area which apparently functioned on a regional scale. These types of sites include cemeteries, townsites, bridges, industrial sites, and isolated public buildings. Finally, there were a number of sites which appeared to be the result of either individual or group patterns of trash disposal, and consisted only of widespread artifact scatters in areas which were unsuited for domestic occupation. These sites have been referred to as dumps. The distinction between these farmstead sites and dump sites has generally been made on the basis of topographic location. Dump sites tend to be located on the edges and slopes of bluffs and in erosion gullies and channels. Farmsteads, on the other hand, generally are located on well-drained high ground, which is usually flat and often close to roads. Many of the sites listed above are in the same locations as are farmsteads shown on turn-of-the-century maps of the project area. Of course, this is not to say that the artifact scatters remaining from these farmsteads were not the result of trash discard, because they probably were, but they differ from the formal dump sites as being apparently associated solely with the occupation of an individual farmstead and are not the result of patterns of communal dumping.

Cemeteries

Sixteen cemeteries are located inside the boundaries of the project area. More than almost any other form of material folk culture, cemeteries reflect traditional values, religious beliefs, and practices maintained for centuries long after their original meaning and cultural function have been forgotten. Like all material culture artifacts, however, they also reflect the changing nature of the culture in which they are constructed and maintained.

Six types of American cemeteries can be identified elsewhere: family plots, community cemeteries, church cemeteries, perpetual care cemeteries, lawn-type cemeteries, and

military cemeteries (Montell 1977). Examples of only the first two types were found in the project area. Jordan (1980: 249) surmises that this might be the result of lack of formal church congregations in frontier communities, combined with the difficulties of bearing bodies from "isolated homesteads over poor roads and trails to distant churchyards in the heat of southern summers."

Cemeteries can be treated as cultural landscapes, and as such can tell us a great deal about a community's conception of the real world (Francaviglia 1971) and the afterworld (Zelinsky 1976). According to Francaviglia, the evolution of cemetery landscapes in trans-Mississippi America may be divided into four periods, each mirroring the stage of development of the community and the prevailing regional and national cultural taste: the pioneer (frontier) period, pre-1879; the Victorian period, 1880 to 1905; the conservative period, 1906 to 1929; and the modern period, 1930 to present. Cemeteries from these periods differ in size, the spatial arrangement of plots and roads within them, the shapes and motifs of individual gravestones and grave housing, decoration of the graves, associated features such as fences and tables, and landscaping.

The southern cemetery is a distinctive cultural adaptation, a conglomeration of traditional elements from various African, Amerindian, and European culture groups (Jordan 1980). Features characteristic of these southern cemeteries as discussed by Jeane (1969) and Jordan (1980) include:

- 1) fences and lichgates (arched entryway) enclosing the cemetery;
- 2) permanent tables for the annual decoration day gathering;
- 3) a tabernacle (a roofed, open-sided structure), often with pews and a pulpit;
- 4) symbolic vegetation (e.g., cedars, roses, lilies, pomegranates);
- 5) burial in family plots;
- 6) graves oriented east-west with headstones facing east (wrongdoers buried north-south or west-east);
- 7) individual or family plots fenced, or bordered in brick, concrete, or stone;
- 8) graves mounded with earth;
- 9) graves "scraped," cleared of all vegetation, and raked (in the most traditional cemeteries, now very rare, the entire graveyard is scraped);
- 10) grave covered by a graveshed (a roofed structure with latticed or open sides);
- 11) graves covered with gravel, rocks, or cement slabs (the modern equivalent of scraping);
- 12) graves decorated with shells, plastic flowers, lamps, light bulbs, or belongings of the deceased;
- 13) markers decorated with symbolic motifs (e.g., dove, roses, lilies, holy city); and
- 14) markers in traditional shapes (e.g., pulpit, scroll, tablet).

The study of the distribution of these features and their combinations throughout a region or within a single cemetery can document "changes in religious values combined with significant shifts in views regarding death" (Francaviglia 1971: 508). Although systematic documentation of cultural features for cemeteries in the project area still remains to be carried out, preliminary observations about the variation in cemetery types and features in the project area are presented below.

One fact to emerge from the collection of preliminary cemetery information is the apparent strength of the Woodmen of the World fraternal order. Because of the distinctiveness of their tree-stump shaped marker (which was provided free upon

request), the members of this order stand out in any cemetery. Lodge symbols of other groups, such as the Masons, were less frequently noted in project area cemeteries.

Even cursory examination of cemeteries in the project area reveals striking preferences in certain folk motifs and marker shapes, and the use of many traditional southern cemetery landscape features. Additionally, these preferences seem to have definite temporal associations. These temporal associations, if identified, might correspond with stylistic shifts in architectural preference, but additional research and documentation would be necessary before this hypothesis can be tested.

The size and location of family and community cemeteries indicate that cemetery data could be most useful in establishing historic neighborhood boundaries and the size of the population through time when combined with data from other primary and secondary sources. Pattison's (1955) contention that growth and expansion of cemeteries responds similarly to urban growth patterns raises interesting questions about similar spread in rural areas. Certainly, abandonment or perpetuation of family and community cemeteries or establishment of new cemeteries would seem to be indicative of redefinitions of community structure and perception.

41DN93

The West family cemetery consists of six graves located in a grove of trees beside a fence. The oldest known grave is that of Thomas West, who was born in 1804 and died in 1875. The other two dated graves are those of Young Jesse West (b. 1866, d. 1892), and William West (b. and d. 1893). Willie James West and the twin baby sons of B. F. and M. W. Corwling also are buried here. The marked graves have both headstones and footstones; headstones are of tablet and obelisk shapes. The headstone of Young Jesse West is a fine example of traditional craftsmanship, decorated with a bas-relief lamb surrounded by leaves.

41DN117

The Davis family cemetery also is in a wooded area, but is much larger (more than 50 graves). The cemetery is distinctive because of the presence of two crypts in addition to more traditional grave marker styles. Traditional southern motifs and shapes were used for most gravestones. Most of the stones are granite or marble, but some are uninscribed limestone slabs.

41DN154

The Jones family cemetery consists of a Jones family plot containing 10 tombstones and bordered by a modern chain link fence, with an oak grove in the center, and at least 11 other graves in the immediate vicinity. All headstones are made of marble with the exception of one infant's gravemarker of sandstone, dated 1881. Traditional grave marker shapes include the obelisk and Roman tablet, and traditional motifs are common here. One unmarked grave, to the west of the other graves, is mounded.

41DN215

The Strickland family cemetery consists of two graves, those of John Strickland (b. 1813, d. 1874) and his wife Sarah J. (b. 1836, d. 1870). The graves are located on a low knoll in a pasture and are sheltered by a large oak tree. The single headstone is elaborately carved and probably postdates the turn of the century; the only other marker is a footstone with the initials "S.J.S." inscribed.

41DN225

This cemetery is presently owned by Barney McKinney; it is not known at this time whether or not it is his family's cemetery. It is presently overgrown with 41 visible tombstones. These tombstones vary from crude sandstone to finished granite and marble. There is a Denton Historical Society marker at the site. A farmhouse and several outbuildings are southwest of the cemetery.

41DN232

This site is potentially a cemetery. A small fenced area is located on a rise with two gates, north and south. These gates are wood plank. Two posts are within the post-and-square-mesh-wire fence and are possibly markers.

41CO69

The Quaid cemetery is located on the crest of a hill. The number of graves is difficult to determine because large blocks of sandstone, some cut, were used to form cairns over graves, outline plots, and as headstones and footstones. Only two marble headstones are present, those of Charles Quaid (b. 1848, d. 1881) and Simpson Quaid (b. 1846?, d. 1875). These stones are nearly identical Roman tablets with a bas-relief dove surrounded by geometric curls around the interior of the arch. Several more gravestones are finished native stone; at least one is a flat-topped gable tablet in shape. Some of the other unfinished native stone markers are inscribed, one of them with a date of 1865.

41CO75

The Jones cemetery consists of about 35 graves located in an oak and hickory wooded area. Graves are arranged in family plots, and most graves have both head and footstones. Markers are made from either sandstone or marble. The boundaries of two family plots are outlined and the cemetery is fenced. Several graves are covered with slabs.

41CO102

The Maxwell/Tevault family cemetery consists of 10 marked graves fenced with barbed wire. The original gravestones have been replaced by steel name plates. The earliest inscription is that of "Mary Tevault, 1840-1874."

41CO104

The Mann family cemetery is located across an abandoned road bed from a single-pen log house with a one-room addition. The cemetery site is triangularly fenced with barbed wire connected to two deciduous trees, and is adjacent to a large oblong depression that was probably a cellar. At least two of the three headstones are made of stone, that of James J. Mann (d. 1876) in the shape of a yoke tablet and that of Daniel S. Mann (d. 1883) in the shape of a Roman tablet. The other grave is that of George W. Mann (d. 1920).

41CO107

The Bloomfield Cemetery shares the characteristic of many southern cemeteries in that it is not associated with a chapel or church. It was, however, until recently, adjacent to

the Bloomfield School, which has been donated to the North Texas State University Campus for a museum. The Bloomfield Cemetery is large, with more than 100 graves. Its grave markers and decorations run the gamut of unmarked sandstone headstones and footstones, carefully crafted folk sandstone markers, and commercially crafted granite and marble markers. Undoubtedly, there are unmarked graves present. Like the neighboring Tioga cemetery, the early twentieth century markers favor granite and marble pulpit, pulpit with shroud shapes, and the "heaven's gate" motif, although many other traditional funerary motifs and marker shapes are present. Many of the original graves were scraped, judging from the vegetative cover now present, and at least one grave had been freshly scraped when the cemetery was surveyed. Many, if not most, of the graves are bordered in cut stone, cement, or brick, and most are laid out in family plots.

The Broomfield Cemetery is carefully tended and still a focal point for the community. The annual homecoming is held each year in the spring, and now is convened in private homes since the school was moved.

41CO135

This cemetery is located in a wooded area. The number of graves is not known, but an area 100 x 170 m is fenced. The marked graves date from 1858 to ca. 1920, and both family plots and individual graves are present.

41GS66

This multi-family cemetery consists of about 50 graves; although overgrown, most of the tombstones are still standing. Marked headstones date from 1877 to 1901. One family plot containing two graves is fenced. One of these headstones is of elaborated yoke tablet shape, and substantially larger than the *norm*. Other headstones in the cemetery also are of traditional shapes, and display traditional motifs, including a hand holding a bible. Most graves are grouped by family.

41GS78

The Hunter family cemetery is located in a wooded area and consists of four graves marked by headstones. Three of the headstones were made of poured concrete, and one is marble. The grave of Pauline E. Hunter, wife of J. Hunter (b. 1854?, d. 1877) is marked with an undecorated Roman tablet. The grave of P. E. Hunter (b. 1846, d. 1891) is marked with a lawn-type marker.

41GS86

The Patton cemetery consists of more than 30 graves. Three or four family plots are bordered, and most of the other graves have both headstones and footstones. The marked graves range in age from 1877 to 1950, the oldest being the infant son of W.E. and S.J. Graham, who died on March 14, 1877. Headstones are constructed of marble, polished granite, and sandstone in variety of traditional and modern motifs and shapes.

41GS104

This cemetery is neglected and overgrown. There are native stone markers as well as a large fallen monument. One grave is mounded with stones, while another gravesite is covered with lilies. There are 27 discernible graves.

Townsites

Only one actual townsite has been identified within the project area. This is the site of Vaughantown (or Cosner), 41DN87, apparently a thriving community between 1905 and 1925. About 1925, the town is reported to have consisted of a rural store, blacksmith shop, two residences and several farm outbuildings, and the Bethel Missionary Baptist Church (G.W. Vaughan 1981: personal communication). Today, the site consists only of a single house and a cluster of recent farmbuildings. All that remains of Vaughantown are five historical artifact clusters scattered over a total area of almost 3 ha along a county dirt road.

Bridges

Five abandoned bridges in varying states of disrepair were recorded by the survey, including 41DN90, 158, and 206; 41CO86; and 41CO138. With the exception of 41DN206, all of the bridges were apparently large road or highway bridges that spanned the Elm Fork. Site 41DN206, on the other hand, was a small bridge constructed of stone cobbles which spanned a small creek or seasonal drainage. For 41DN90 and 41CO86, only the bridge pylons remain. In the cases of 41CO86, 41CO138, and 41DN158, these were constructed of poured concrete inside a circular metal mold with metal reinforcements. Site 41DN90 was different in that the supports consisted of a metal mold that was filled with what appeared to be a locally manufactured lime mortar and limestone fill. Surrounding about half of the exterior of each pylon was a rectangular veneer of what appeared to be adobe. Below the base of these supports, a roughly dressed limestone retaining wall had been constructed against the base of the creek bank.

Public Buildings

Three sites located within the survey area have been identified as public buildings: 41DN126, 41CO21, and 41CO119. Site 41DN126 consists of the foundation and sparse surface remains of the Prairie Chapel School, on the southwest edge of the project area. Site 41CO21 consists of the still standing St. James Church in the eastern portion of the project area. Finally, 41CO119 consists of the remnant foundation and sparse surface remains of the Bloomfield School, close to Bloomfield Cemetery and west of Isle du Bois Creek. Interestingly, the Bloomfield School was associated with an intact cellar, suggesting that such features are not always confined to domestic sites.

Historic Archaeological Sites

Of the 355 cultural resource sites located by this study, 143 contained historic archaeological components. According to the research design, the major intent of the analysis of these components is to describe material cultural patterns. This was accomplished through application of artifactual information into two categories. The first category is time. An attempt was made to place the historic archaeological sites within the temporal sequence described in the research design. However, this proved impractical because time frames of the artifacts were often too broad and did not coincide with the temporal sequence presented. The historic artifact assemblages "fit" better into the temporal sequence used for the architectural study. Therefore, the time periods actually used are 1800-1850, 1850-1875, 1875-1935, and 1935-1980. There are no single, temporally diagnostic artifacts which clearly distinguish a site as belonging to one period or another. Rather, the entire artifact assemblage must be considered when making a temporal assessment. For example, bottle fragments exhibiting a technological characteristic such as an applied lip/neck are generally dated as 1840-

1913 (Newman 1970). However, the presence of other artifacts such as blue feather edge whiteware (pre-1870) (Price 1979), tool-finished or snap case used lip/neck bottle fragments (1857) (Lorraine 1968), and black/dark olive green glass fragments (1815-1885) (Kendrick 1971; and Ward 1977) in conjunction with the applied lip/neck bottle fragment imply a date for the period 1850-1875. The criteria for dating the sites are technological characteristics with known dates of manufacturing.

The second category is site function. Once a time period was established for a site, its function was determined based largely upon distinction of features (such as wells, root cellars, and existing buildings), and on information regarding functional distinctions (such as that between farmhouses, schools, and churches). There are four major site functions identified for the historic archaeological sites: farmsteads, wells, dumps, and cemeteries. They are described in the previous discussion on general historic sites. Other minor functions are townsites, bridges, and school/churches. Table 7-4 presents the overall numbers of sites within the categories.

1800-1850

Several sites exhibited artifacts which date from this period. These include several farmsteads and dumps (Figure 7-9). The most common artifacts present are bottle bases with improved pontil marks. This technological attribute is dated as pre-1810. However, the presence of this single type of pre-1810 artifact does not necessarily make these 1800-1850 sites. Rather, only the artifact is dated to this period. These sites are all located along the upper reaches of Isle du Bois Creek with one exception, that of 41DN78 in the southern part of the project area (see Figure 7-9). This pattern suggests that there may have been two separate migration routes for the early pioneers occupying the Lake Ray Roberts area: one group may have moved up the Elm Fork of the Trinity from the south; the other group may have moved down the Isle du Bois from the northeast, with a possible ultimate point of origin in Arkansas.

1850-1875

Thirty-one historic sites exhibit archaeological artifacts representative of this time period (see Figure 7-9). Of these 32 sites, 17 are farmsteads, 1 is a townsite (41DN87), 10 are cemeteries, and 4 are dump sites. These farmsteads range in size from 0.005 to 1.70 ha. The average 1850-1875 archaeological farmstead size is 0.49 ha. The artifactual assemblage of townsite 41DN87 represents a minor occupation believed to be only a farmstead during this period. Site size is reported as almost 3.0 ha. Its major occupation is recorded as being between 1905-1925. The site is described more thoroughly in the general historic sites' discussion. The cemeteries range from 0.005 to 1.70 ha, with the average size being 0.39 ha. The three artifact dumps range from 0.01 to 0.58 ha; the average size is 0.21 ha.

The actual physical remains of settlement dating to this period is largely confined to the Isle du Bois area and the lower portion of the Elm Fork (see Figure 7-9). However, the 10 cemeteries which were in use during this period are scattered throughout the entire lake area, indicating that the entire lake area was settled by the end of the Civil War. Apparently this settlement took place too rapidly to be discerned by the gross time periods used here, but the relatively high density of settlement in the southern part of the area continues to suggest that this area was one of initial settlement. The lack of a similar density in the northeastern area may indicate the the initial settlement in this area was never more than a trickle.

Table 7-4.

Total numbers of historic archaeological components
within temporal and functional categories

Function	Time				Unknown
	1800-1850	1850-1875	1875-1935	1935-1980	
Farm	3(?)	17	87	43	1
Cemetery		10	15	6	1
Dump	2(?)	4	14	7	
Townsite		1	1		
Well			3	2	
Bridge	1(?)		1	1	
School/Church				1	
Unknown	—	—	<u>22</u>	<u>9</u>	<u>10</u>
Total	6	32	143	69	12

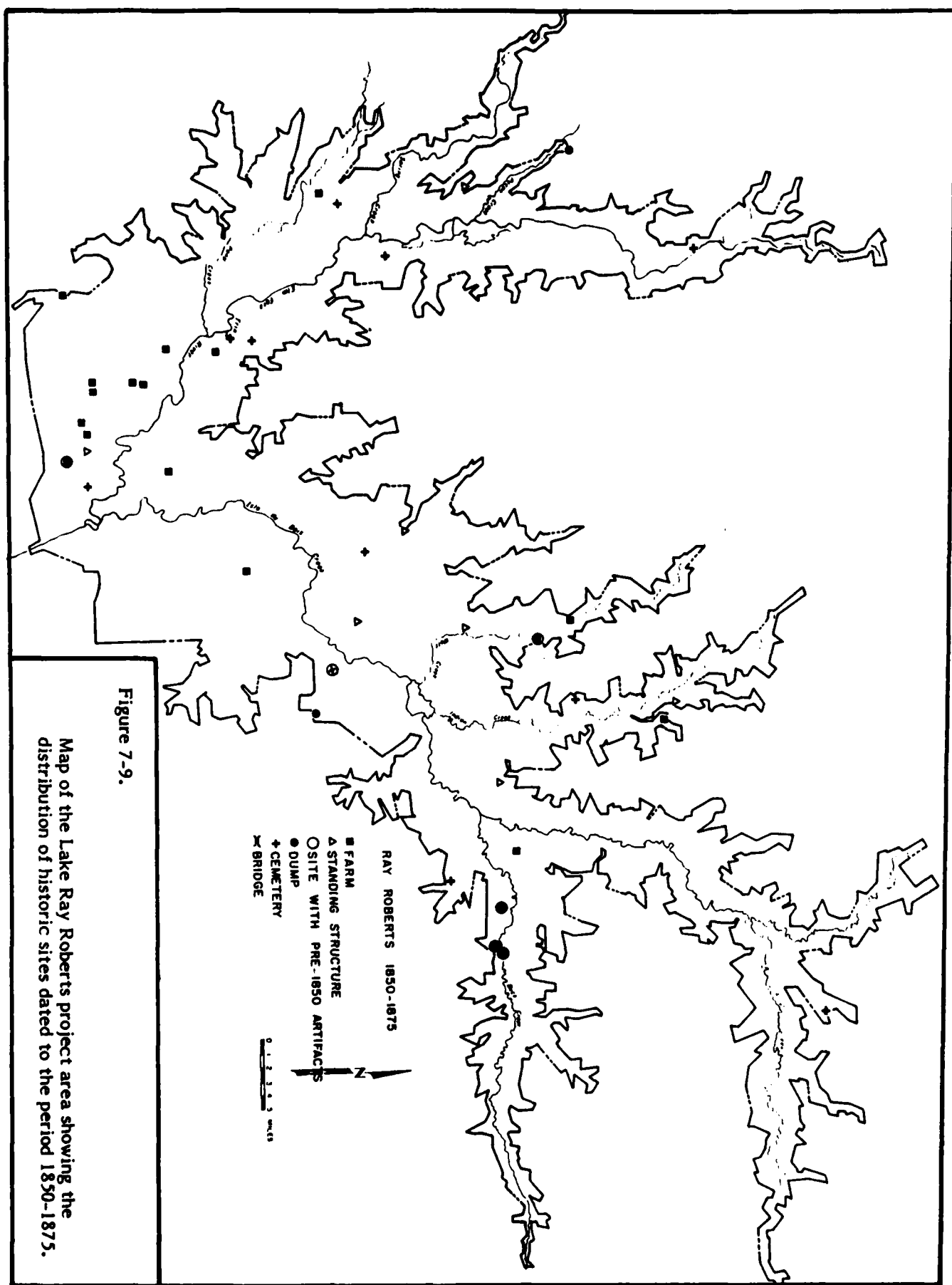


Figure 7-9.

Map of the Lake Ray Roberts project area showing the distribution of historic sites dated to the period 1850-1875.

1875-1935

In all, 143 sites contain historic archaeological components dated from this time period. Eighty-seven sites are farmsteads, 1 is a townsite, 15 are cemeteries, 14 are dump sites, 3 are wells, 22 are unidentified assemblages or scatters, and 1 is associated with an 1875-1935 bridge assemblage (Figure 7-10). The farmsteads range in size from 0.02 to 3.64 ha with the average size being 0.41 ha. The town is 41DN87. The cemeteries range from 0.004 to 1.70 ha, with 0.35 ha as the average size. The average size of the 11 dumps is 0.15 ha, and the sizes range from 0.005 to 0.56 ha. The unidentified artifact scatters range from 0.015 to 1.53 ha, with 0.27 ha as the average size. The artifact assemblage associated with the bridge has an area of approximately 0.01 ha.

Figure 7-10 shows that the lake area during this period was densely settled, especially in the southern part of the area, along the lower Elm Fork and Isle Du Bois Creek. Based on the archaeological evidence alone, this period would have to be considered the high point of occupation within the limits of the study area.

1935-1980

Sixty-nine historical sites yielded historic archaeological components representative of this last historic period. Forty-three sites have a defined function as farmsteads; six are cemeteries; seven are dumps; two are wells; nine are unidentified artifact scatters; one is associated with a bridge; and one appears to have been a school/church. The farmsteads range in size from 0.0064 to 2.06 ha, with the average size being 0.46 ha. The cemeteries are 0.004, 0.15, and 0.30 ha in size. One dump is 0.01 ha in area; two are 0.05, and the fourth is 0.20. The unidentified scatters range from 0.11 to 0.65 ha, with 0.27 ha as the mean area. The artifactual assemblage associated with the bridge is 0.01 ha, and the school/church is 0.27 ha.

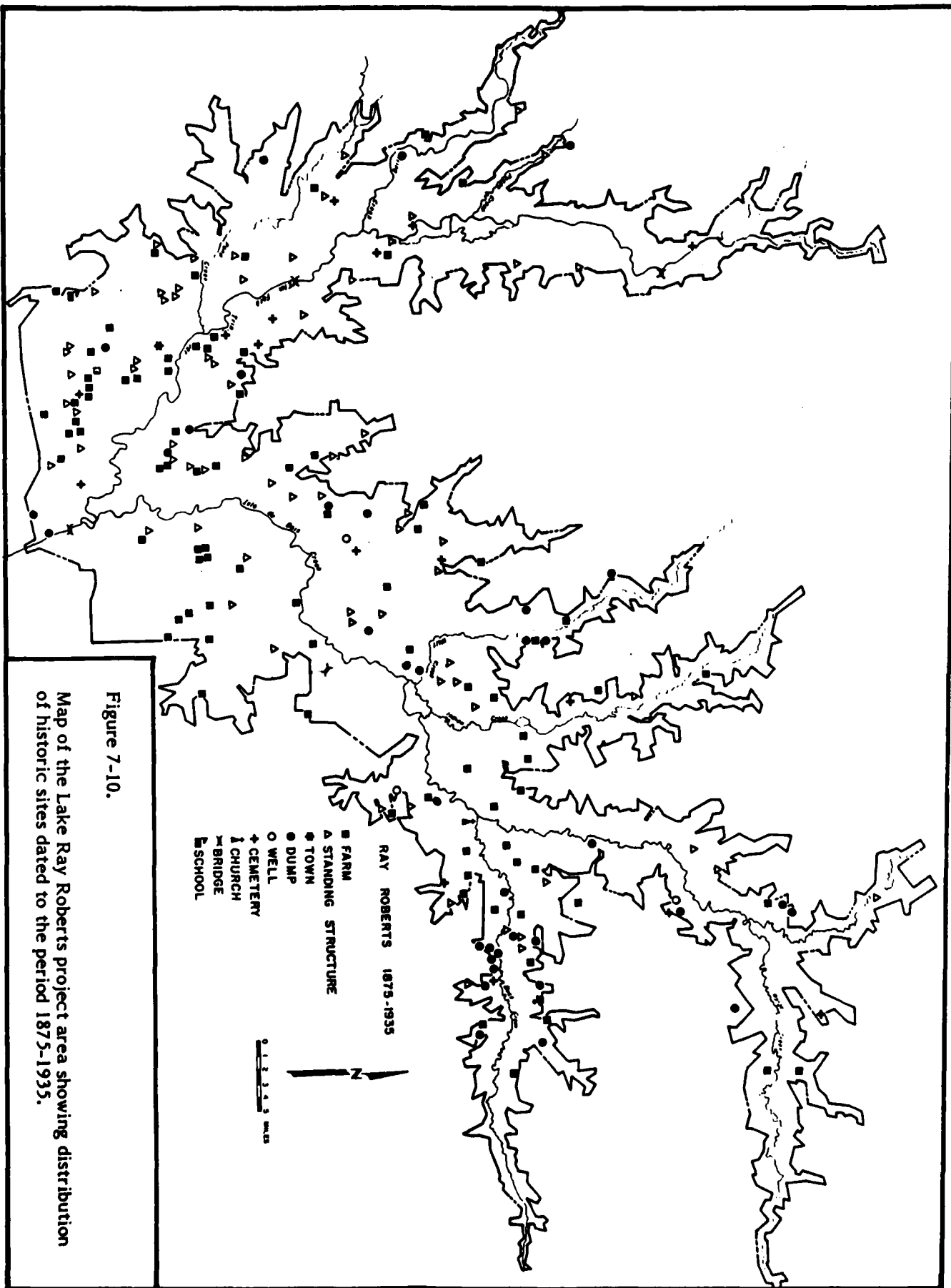
The distribution of sites for this time period shows a definite loss of population throughout the entire lake area, when compared with the preceding period (Figure 7-11). This population loss is even more dramatic when note is taken of the few structures still occupied within the area. From this, it is clear that two population decreases occurred in the area. It is reasonable to assume that the first population decline was associated with the depression in the 1930s, while the second may have been associated with the period following World War II.

Unknown Time Period

These sites are described as having an undated time period for several reasons: (1) the artifact assemblage is too scanty to allow an accurate time frame to be determined, (2) there are no temporal diagnostics, or (3) the site may be a reported site which could not be examined by the field crew. There are 13 sites which fit into this category. Only two could be assigned an actual function (one cemetery and one farm).

Architectural Sites

Systematic study of building types (i.e., houses, barns, coops, sheds, garages, and outbuildings) yields valuable insights into the folkways and culture patterns of a population through time on a local, regional, and national level. In this study, all buildings were minimally recorded (see Methodology). In this discussion, however, houses will receive the bulk of analytical attention. This is true for several reasons.



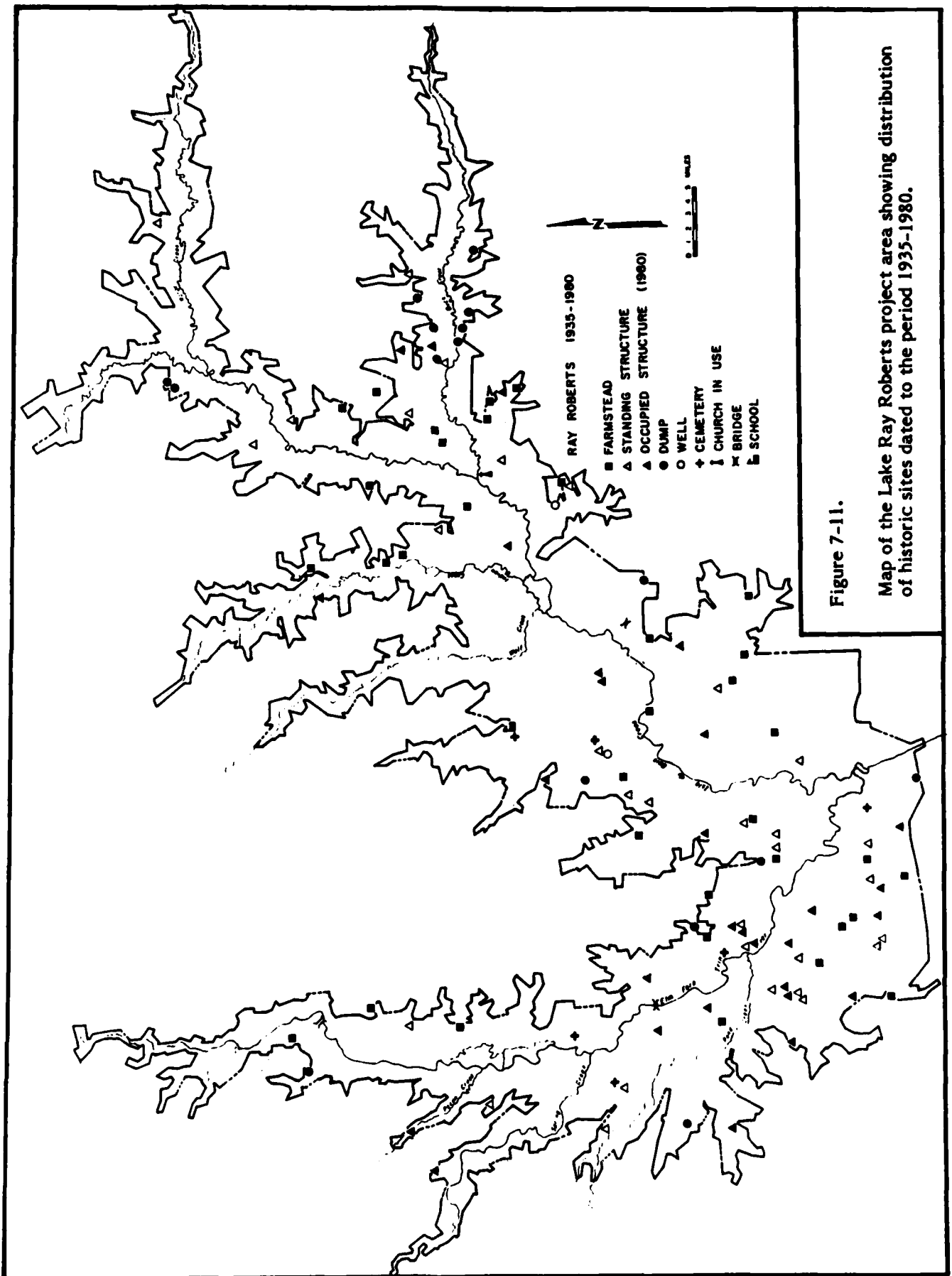


Figure 7-11.

Map of the Lake Ray Roberts project area showing distribution of historic sites dated to the period 1935-1980.

First, evaluation of farmsteads in terms of their "architectural types" is not possible because there are virtually no "pure" examples of the earliest farmsteads extant. Where early buildings survive, it is either as lone buildings out of context or as part of a more modern farmstead where significant changes may or may not have taken place.

Second, agricultural structures on a farmstead vary in form and style primarily along the dimensions of function and economy. This means that their form, style, and placement can be discussed in terms of economic change through time on an individual farm, and when buildings are grouped, form and style can be discussed in terms of regional patterns as they changed through time and differ from place to place. Agricultural buildings, however, are usually less influenced by personal idiosyncratic choices and thus are present in fewer variations.

Houses, on the other hand, serve one major function (shelter), but there are literally unlimited design possibilities for constructing and furnishing even the most "primitive" shelter (see Rudofsky 1964). Further, houses are expected to fill psychological needs to a much greater extent than are outbuildings (Rapaport 1969). In effect, houses are symbols as well as functional entities. Therefore, although the design possibilities are without limit, people tend to build their houses in culturally conservative ways that express "meanings" to others of their culture and express their willingness to embroider on or break away from tradition.

If buildings can be said to have a "grammar," to use Glassie's (1975) phrase, we can expect to group them into types according to some logical scheme, and we should be able to relate this scheme at least tentatively to its causal determinants. Several typologies have been proposed in recent years for dealing with folk buildings. Glassie's (1968) regional discussions are an excellent introduction into the variation in house types, but his typology is neither systematic nor readily accessible from his work. Glassie's (1975) functionalist approach has much to offer in terms of system and rationale, but he virtually dismisses vernacular building, and his analytical technique requires a great deal more data than a cultural resources survey is usually able to gather. Jordan's (1978) typology, designed to deal only with log buildings, is satisfactory in many regards, although it implies (like Glassie 1968) that houses must be one type or another, when in fact most landscapes contain many "transitional" buildings.

Preliminary analysis of buildings in the project area seems to indicate that many houses in the area were transitional in form, hybrids having features of two or more previously defined types. Therefore, Wells' (1980) typology seems to have much to recommend it. Wells has structured the Kentucky State Historic Preservation Office typology according to several criteria which are noted independently of each other: plan, stories, depth, bays, and roof type. Her typology includes "120 possible combinations of features," of which "only a limited range were ever built with any frequency" (Wells 1980:4). One important variable that neither Wells nor Jordan deals with typologically is the temporal dimension. Wells addresses this in the text of her article, placing parameters on the buildings the typology may be used for--those built roughly between 1880 and 1920 of light sawn wood. Buildings earlier, later, and of different materials are treated differently by her office. Continuity of form and style is evident, however, in most rural trans-Mississippi landscapes. Log buildings, early frame and stone, and twentieth century frame and stone buildings often have similar plans; folk elements are retained often even into 1930s and 1940s bungalows. It would be useful, then, to have a typology which allows this continuity and the continual adaptation of culture change to be explored.

The ways in which people adapt their buildings in an area where resources are limited may be more important psychologically and culturally than the forms in which they were originally built. Therefore, a typology was developed for use in this study that would take into account this factor as well as variables known to be important through the experience of Glassie (1968, 1975), Wells (1980), Jordan (1978), Kniffen (1965), and others. The independence of the variables was retained as an important feature in the present scheme, as was the emphasis on plan, depth, stories, and roof types as primary variables. While chimneys have been included on the survey typology form completed for each site with a house, survey data on chimneys was too limited because of the lack of interior access to most houses to be of any value. Although chimney placement is useful in discussing the difference in design by builders from Upland and Lowland South culture regions, many folk houses in the project area were built after heating stoves became readily available, so that in those cases chimney placement may not reflect the activity patterns of the occupants of the house.

Likewise, "alterations and additions" and "basements" were not consistently recorded during survey fieldwork and were thus not useful categories. Porches were added as an analysis category to those commonly used in landscape surveys because the research hypotheses deal with the difference between southern and midwestern houses, and one significant difference is in the use of porches as a space in which to interact with other people (Little-Stokes 1978). Fenestration (window patterning) and door placement also are important variables, but no satisfactory method of dealing with the possible variations given the data available was worked out, so they were not included.

Therefore, the following discussion will deal with house types broken down by five variables: basic unit plan, depth, stories, main roof, and porches (see Table 7-5). In developing these typological categories, an analysis form was devised that could be used as a part of the ECI survey form on future projects. This analysis form was designed for computer coding in order to synthesize and analyze the data and to construct comparative data bases. In light of the tentative nature of this typological attempt, it was logical to allow for future expansion of the named variations within each category, and for the addition of other variables (such as fenestration) as ways of handling their variations are worked out, so as to avoid recoding previous data sets such as generated by this project. Numbers assigned to categories within the five variables are used in the text and tables as they are enumerated on the typological coding sheet. A complete list of categories and their numeric equivalents are included in Table 7-5.

Table 7-5 contains the relevant variable information arranged stepwise first by basic plan, then depth, then by stories, main roof, and porches, respectively. Within each category, variations are arranged in order of increasing complexity of design, which also corresponds roughly to the temporal evolution of house form nationally. Most authors are in agreement that basic unit plan and depth are the most meaningful cultural antecedent variables, and that plan and depth are associated as well with temporal periods. Height is commonly associated with wealth and status, and roof types and porch types have definite temporal as well as cultural associations.

It should be obvious from Table 7-5 that typological groupings are possible, and that along any single variable, few variations from the norm are present in the area. Several houses are known to be present in the survey area for which no data was collected because of access problems, field difficulties, etc. These sites have not been included in this analysis but are included in the chart of building types by site (Appendix 3, Table A3-1) and on the map of standing structure locations (Figure 7-12). On a few sites more than one house is present; in the following discussion, the single site number was retained for these sites, but the dwellings were treated separately.

Table 7-5.

Historic houses still extant in the project area, arranged
stepwise by plan, depth, number of stories, roof types, and porch type(s)

SITE NO.	BASIC PLAN	DEPTH FROM FRONT ELEVATION	STORIES	MAIN ROOF	PORCHES
	1 Single-cell	1	1	1	1
	2 Double-cell	2	2	2	2
	3 Double-cell (single-cell with addition)	3	3	3	3
	4 Single-cell with partial cell	4	4	4	4
	5 Double-cell with open passage	5	5	5	5
	6 Double-cell with closed passage, originally open	6	6	6	6
	7 Double-cell with closed passage	7	7	7	7
	8 T-plan	8	8	8	8
	9 T-plan with open passage	9	9	9	9
	10 T-plan with closed passage, originally open	10	10	10	10
	11 T-plan with closed passage	11	11	11	11
	12 L-plan	12	12	12	12
	13 L-plan with closed passage, originally open	13	13	13	13
	14 L-plan with closed passage	14	14	14	14
	15 Other plan	15	15	15	15
	24 No data	24	24	24	24
	30 Single depth	30	30	30	30
	31 Double depth	31	31	31	31
	32 Addition to single depth making double depth	32	32	32	32
	33 Addition to double depth making triple depth	33	33	33	33
	34 Additions to single depth to make triple depth	34	34	34	34
	35 Triple depth	35	35	35	35
	36 Other	36	36	36	36
	37 No data	37	37	37	37
	50 One	50	50	50	50
	51 One and one-half	51	51	51	51
	52 Two	52	52	52	52
	53 More than two	53	53	53	53
	54 No data	54	54	54	54
	60 Gable	60	60	60	60
	61 Hipped	61	61	61	61
	62 Pyramidal	62	62	62	62
	63 Mansard	63	63	63	63
	64 Gambrel	64	64	64	64
	65 Saltbox	65	65	65	65
	66 Gable with hip/flat	66	66	66	66
	67 Hipped with gable/flat	67	67	67	67
	68 Shed	68	68	68	68
	69 Flat with parapet	69	69	69	69
	70 Other	70	70	70	70
	71 No data	71	71	71	71
	90 Full front	90	90	90	90
	91 Partial front	91	91	91	91
	92 Full back	92	92	92	92
	93 Partial back	93	93	93	93
	94 Full side	94	94	94	94
	95 Partial side	95	95	95	95
	96 Veranda	96	96	96	96
	97 Other	97	97	97	97
	103 None	103	103	103	103
	104 No data	104	104	104	104

41CO33
41DN171
41CO118
41CO42
41DN132
41DN157
41DN167
41CO104
41DN176
41CO108
41DN125
41DN132
41DN171
41DN128
41DN225
41CO130
41GS40
41CO32
41DN229
41GS63
41CO111
41CO81
41CO39
41DN191
41CO83

Table 7-5 (Cont.)

SITE NO.	BASIC PLAN	HEIGHT FROM		STORIES	MAIN ROOF	PORCHES
		GROUND	ELEVATION			
41GS45	1 Single-cell					
41DN224	2 Double-cell					
41CO111	3 Double-cell (single-cell with addition)					
41DN198	4 Single-cell with partial cell					
41DN157	5 Double-cell with open passage					
41GS46	6 Double-cell with closed passage, originally open					
41DN123	7 Double-cell with closed passage					
41DN17	8 T-plan					
41CO110	9 T-plan with open passage					
41CO105	10 T-plan with closed passage, originally open					
41DN174	11 T-plan with closed passage					
41GS75	12 L-plan					
41DN127	13 L-plan with closed passage, originally open					
41GS84	14 L-plan with closed passage					
41CO82	15 Other plan					
41CO78	16 No data					
41DN223	17 Single depth					
41DN133	18 Double depth					
41DN204	19 Addition to single depth making double depth					
41DN226	20 Addition to double depth making triple depth					
41DN134	21 Additions to single depth to make triple depth					
41CO36	22 Triple depth					
41DN193	23 Other					
41CO103	24 No data					
41GS49	25 One					
	26 One and one-half					
	27 Two					
	28 More than two					
	29 No data					
	30 Cable					
	31 Ripped					
	32 Pyramidal					
	33 Hemispherical					
	34 Gambrel					
	35 Saltbox					
	36 Cable with hippler					
	37 Ripped with gambrel					
	38 Shed					
	39 Flat with parapet					
	40 Other					
	41 No data					
	42 Full front					
	43 Partial front					
	44 Full back					
	45 Partial back					
	46 Full side					
	47 Partial side					
	48 Veranda					
	49 Other					
	50 None					

Table 7-5 (Cont.)

[illegible]

* Site numbers may appear more than once where more than one house is extant on an historic farmstead.

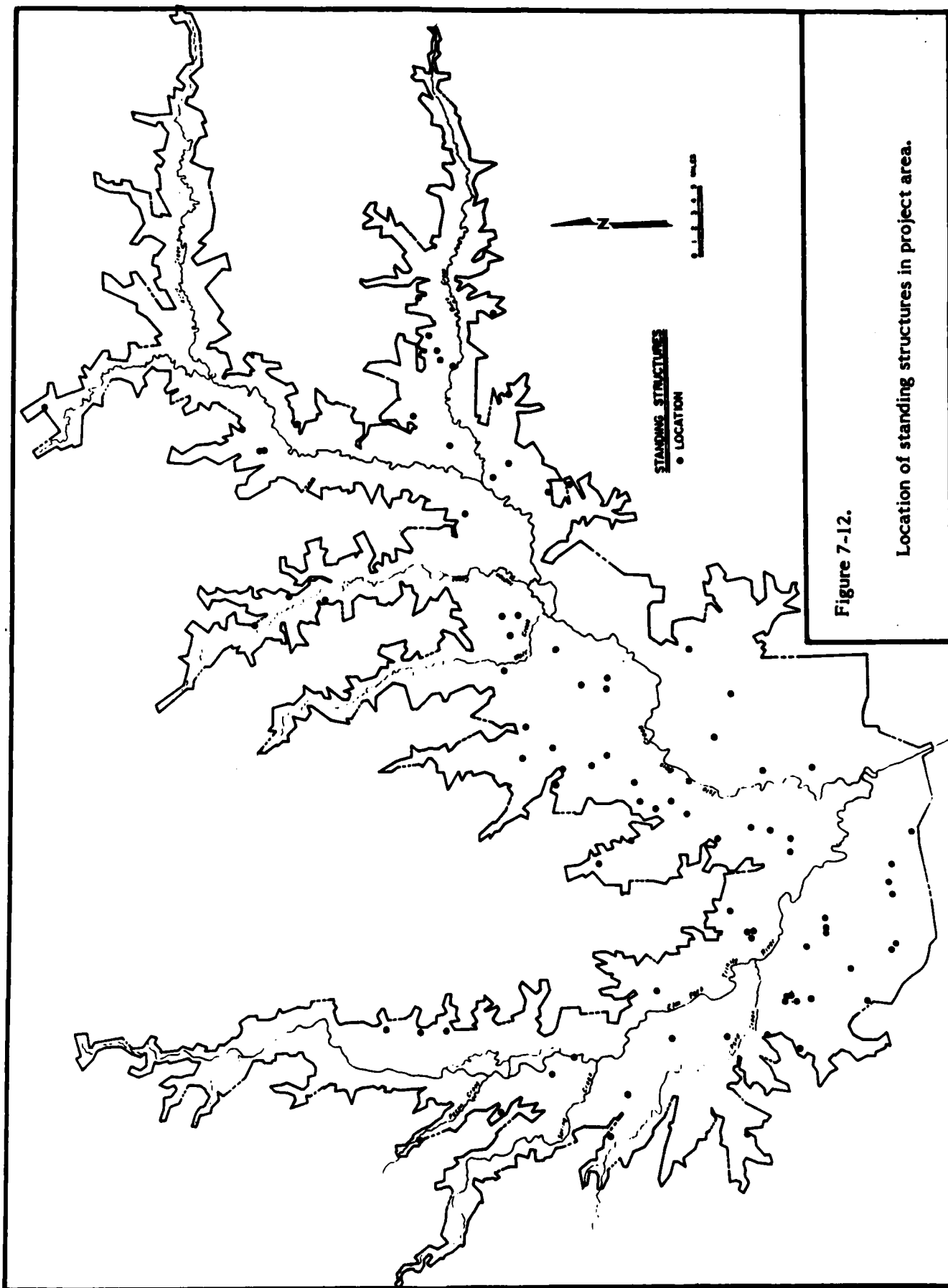


Figure 7-12.

Location of standing structures in project area.

When basic plan is considered as a single variable, single-cell houses comprise 13% of the total number of houses recorded, double-cell houses comprise 21%, single-cell with partial cell occurs only once (1.5%), double-cell with closed passage (originally open) 3% of the total, double-cell with closed passage 9%, tee plan 6%, ell plan 6%, and all other plans 26%. (For 11% of the houses surveyed, no data on plan has yet been obtained. Several of the seven houses in this group have been extensively altered, and their basic plan cannot be determined from their exterior elevations.) This summary information on basic plan (along with information on depth) should be used with caution, however, since without access to the interiors of the structures such features as open-then-closed passages and tee plans with passages may not be evident. Likewise, virtually no information is available regarding the original plans of houses later converted to barns, since paced plans of outbuildings were not included in site documentation in the survey phase. More than one-third of the historic houses in the project area have double cells as their basic unit. This is not surprising, since the project area history shows that this area can be characterized as never having been a wealthy one, and big houses were not common.

Information on basic unit plan (see Table 7-5), while a starting point, is not very useful without information on depth. Plan/depth combinations that may be considered folk types that have been previously named by other authors include 1/30 (often called a single pen), 2/30 (Cumberland), 3/30 (two-room hall-and-parlor), 5/30 (dogtrot), 7/30 (three-room hall-and-parlor), 1/34 or 1/35 (shotgun), and 7/31 (Georgian). In addition, 7/30, when two stories high, is considered an I-house; and 2/31, when it has a hipped or pyramidal roof, is often called a southern pyramidal house. When depth as well as plan is considered (as shown in Table 7-6), only two traditional Upland South folk house types are seen to have remained in the present landscape unaltered: single-cell, single-depth houses (8% of the 65 houses recorded); and double-cell, double-depth (11%). Only one shotgun house is present in the project area (typologically a single-cell, triple-depth house). Unaltered midwestern tees and ells--nineteenth century plans--account for only 6%. The largest number of houses in any plan/depth category is (not surprisingly) other-plan, triple-depth (14%). Other plan, double-depth houses comprise 8% of the total. The latter category consists of early planbook and idiosyncratic plans (dating from the late nineteenth and early twentieth centuries), while the former category represents late planbook houses, bungalows, and other kinds of houses dating from the second, third, and fourth decades of the twentieth century. Neither of these vernacular houses are modular, either in concept or in execution.

The conservative nature of pre-planbook residential building is evident when original as opposed to eventual plans are considered. At least 11% of the houses in this area were traditional folk house types that have been "deepened," indicating that the usual mode of expansion for an existing house was to the rear. Although this arrangement may seem at first to be commonsensical in that it preserves the design of the facade, there is some evidence that this is a fundamental part of traditional American folk housing concepts. Among some non-Anglo groups in the American landscape, for instance, additions were often placed on the sides and fronts of houses (Baird in prep.).

The other option for expanding an existing house is to go upward, making the attic into usable loft space, but such a design solution seems to have been exceptionally rare in this area. No examples of houses expanded from one story to one-and-one-half or two were located during the survey. Since interior access was limited, it is expected that the percentage of altered plans recorded is low; often alterations coincide with rehabilitation, and new siding is used on both the original component and the addition.

Table 7-6.
Frequency of House Plan by Depth

PLAN	Depth								TOTAL
	30	31	32	33	34	35	36	37	
1	5	.	3	.	.	1	.	.	9
2	3	9	1	2	1	.	.	.	16
4	.	1	.	.	.	.	.	.	1
5	.	.	.	.	.	1	1	.	2
6	.	.	.	.	.	2	.	.	2
7	2	2	1	.	.	1	.	.	6
8	3	.	.	.	.	1	.	.	4
12	1	.	1	.	.	3	.	.	5
23	2	5	.	.	.	9	2	.	18
24	1	.	1	.	.	.	.	5	7
TOTAL	17	17	7	2	1	18	3	5	70

The elaboration of traditional folk house types using shed-roofed additions is much more pronounced in the perception of the rural residential landscape of this area than the statistics would seem to indicate. It is, perhaps, the overriding visual characteristic of the present-day landscape. This image is reinforced by the relative absence of one-and-one-half and two-story houses in the present landscape. Nine percent of the houses surveyed are one-and-one-half stories high, and another 6% are two-story. This percentage may be disproportionately high when considering the historic landscape, since smaller houses tend to disappear from the landscape at a faster rate than more substantial structures.

While house plan and depth tended to increase in complexity over time, several aspects of house form did not significantly show a similar increase. The first of these is roof types. In all parts of the project area and in all time periods, gable roofs predominate (see Table 7-7). Only 25% of the historic houses in the area have hipped roofs; of these, 10% are pyramidal roofs. Only one other roof type is present in the area, a parapet roof on the Moderne House (41DN83), and that house is itself a regional anomaly stylistically.

Houses did not tend to be built taller over time, at least based on the extant evidence. Five multi-story folk houses remain in the landscape, along with another five vernacular houses (Table 7-8). An overwhelming temporal shift is evident, however, when porches and porch combinations are considered as a part of plan (Table 7-9), and plan and depth (Table 7-10). Full porches were defined as encompassing three-fourths or more of the available space on an elevation.

Full porches are characteristic of folk houses and gable-entry planbook and bungalows, but not of the additive categories, and the ratio of number of porches to houses declined with increasing complexity of form and plan. This illustrates the pattern in this area of enclosing original porch spaces as additional rooms to delay construction of a new house, particularly on rear and side porches. In addition to being an economical expedient, this progressive enclosure without the addition of new porch space reflects a nationwide fundamental change in the way domestic spaces were perceived and used. From about 1900 on, more and more activities took place inside the house, and fewer of them on porches. In effect, porches gradually ceased to be defined as the functional focus for domestic activities in the traditional southern manner.

Log Buildings

In addition to considering building types on the basis of stylistic features, buildings also can be considered as typologically distinct by materials. As discussed above, distinctions made by materials only can mask important evolutionary continuums. Some building techniques requiring special expertise are intrinsically interesting, however, and deserve special consideration. The first of these is log.

The bulk of the 27 log structures still standing in the project are located west of the Isle du Bois and east of the Elm Fork in the heart of the Cross Timbers (Figure 7-13). Since log construction continued to be common through the first decade of the twentieth century, statements about temporal stylistic associations or the maintenance or deterioration of the log tradition through time will have to wait until further systematic research is completed. Similarly, the function of many of these log outbuildings is still speculative.

Jordan's work on Texas folk architecture, particularly his work on log buildings in Texas (1978), has established an excellent base from which to examine regional, temporal and

Table 7-7.
Frequency of House Roof Type by Plan

PLAN	Roof Type						TOTAL
	60	61	62	69	70	71	
1	8	1	.	.	.	.	9
2	12	.	3	.	1	.	16
4	.	.	1	.	.	.	1
5	2	.	.	.	.	.	2
6	2	.	.	.	.	.	2
7	5	.	1	.	.	.	6
8	3	.	.	.	.	1	4
12	5	.	.	.	.	.	5
23	9	7	1	1	.	.	18
24	5	2	.	.	.	.	7
TOTAL	51	10	5	1	1	1	70

Table 7-8.

Frequency of house plan and depth by number of stories

Plan/Depth																															
No. of Stories	$\frac{1}{30}$	$\frac{1}{32}$	$\frac{1}{35}$	$\frac{2}{30}$	$\frac{2}{31}$	$\frac{2}{32}$	$\frac{2}{33}$	$\frac{2}{34}$	$\frac{3}{31}$	$\frac{5}{35}$	$\frac{5}{36}$	$\frac{6}{35}$	$\frac{7}{30}$	$\frac{7}{31}$	$\frac{7}{32}$	$\frac{7}{35}$	$\frac{8}{30}$	$\frac{8}{35}$	$\frac{12}{30}$	$\frac{12}{32}$	$\frac{12}{35}$	$\frac{23}{30}$	$\frac{23}{31}$	$\frac{23}{35}$	$\frac{23}{36}$	$\frac{24}{30}$	$\frac{24}{32}$	$\frac{24}{37}$			
1	5	3		3	8	1	2	1	1	1		1	2	1	1		3	1	1	1	2	1	5	8	1	1		4			
1½			1									1		1	1						1	1			1		1				
2					1						1						1							1							

Total No. of One-Story Houses = 58;

Total No. of One-and-One Half-Story Houses = 8;

Total No. of Two-Story Houses = 4.

Table 7-9.
Frequency of porch types and porch combinations by plan

Porch type	Plan									
	1	2	4	5	6	7	8	12	23	24
Full Front	5	7	1		1	1		1	3	3
Full Back						1				
Full Side	2						1			
Partial Front	2	5				3	2	2	6	1
Partial Back	1	6				2	1		2	
Partial Side		1					1			
Veranda						1				
Other	1	2		1	1		1	2	3	
None	1	1		1					2	1
No Data		1			1				2	2
Full Front Only	3	3	1			1		1	3	3
Full Front with Side	2									
Full Front with Back		5								
Partial Front Only	1	1				2		1	4	1
Partial Front with Side		1					1		1	
Partial Front with Back	1	2				1	1		1	
No Front with Other	1						1	1	2	
No Front with Side							1	1	1	
No Front with Back						1			1	
Full Front with Other		1			1					
Partial Front with Other		1						1	1	
Veranda						1				

Table 7-10.

Frequency of house plan and depth by porch types and porch combinations

	Plan Depth																											
Porch Combina- tions	1 30	1 32	1 35	2 30	2 31	2 32	2 33	2 34	3 31	3 35	3 36	6 35	7 30	7 31	7 32	7 35	8 30	8 35	12 30	12 32	12 35	23 30	23 31	23 35	23 36	24 30	24 32	24 37
TYPES																												
Full Front	3	1	1	3	4				1		1				1				1		1	1	2					3
Partial Front	1	1		4		2	1						1	1	1		2			2	1		4	1	1			
Full Back													1															
Partial Back	1			3	3			1					1		1		-1						2					
Full Side	1		1														1											
Partial Side					1												1			1					1			
Veranda														1														
Other	1				1		1			2		1						1	1		1	1	1	1				
None	1	1			1						1												1	1				1
No Data						1						1												1	1		1	1
COMBIN- ATIONS																												
Full Front Only	2	1			2				1							1				1		1		2				3
Full Front w/Back				3	1																							
Full Front w/Side			1																									
Full Front w/Other						1						1																
Partial Front Only		1			1		1						1	1						1			4		1			
Partial Front w/Back	1				2			1							1		1						1					
Partial Front w/Side					1												1									1		
Partial Front w/Other							1														1	1						
No Front w/back													1							1				1				
No Front w/side																	1								1			
No Front w/ other														1				1	1					1	1			
Veranda														1														

Porches 7 2 2 6 13 ? 3 2 1 2 0 2 3 2 2 1 5 1 1 1 4 3 5 7 ? 1 ? 3

Plan Depth 5 3 1 3 9 1 2 1 1 1 1 2 2 2 1 1 3 1 1 1 1 2 5 9 2 1 1 5

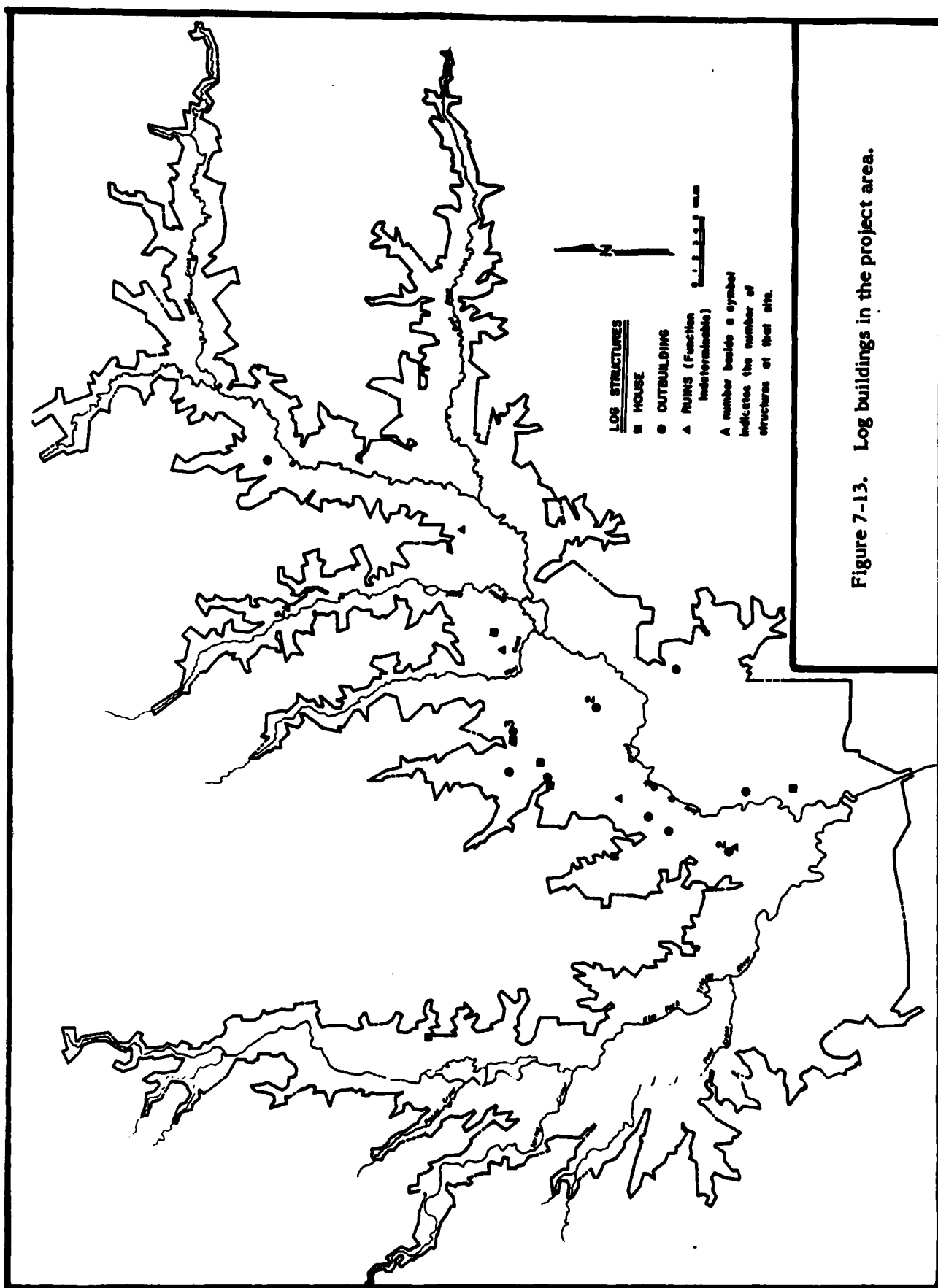


Figure 7-13. Log buildings in the project area.

functional differences in log buildings in north-central Texas. Jordan's conclusions were drawn by analyzing and summarizing statewide survey data collected by himself and others, which provided a statistically non-systematic sampling of the extant log architecture in the state. This and other similar studies (e.g., Skinner, Baird, Bennett et al. 1981) demonstrate that the number of extant log buildings is greater than those included in Jordan's survey, and additional information is expected to further amplify or even change his conclusions.

Stone Construction

Historic stone residential construction is non-existent in the project area today, and there is no evidence to indicate that there ever were any stone buildings. Examples of stone construction identified in the survey consists of stone-lined wells (a common phenomena) and one cut-stone basement (4ICO36). This site has been tentatively identified as a German settlement site because of the presence of a possible house-barn combination building and a brick cistern which also reflects considerable skill at masonry. A similar cistern is associated with a conical-roofed, round brick root cellar on the Penn site in the Lakeview project area in southeast Dallas County.

Prehistory of the Lake Ray Roberts Project Area

Prehistoric Sites

The survey work in the Lake Ray Roberts area has identified a total of 117 prehistoric sites which would appear to represent some type of occupation, as well as 21 isolated prehistoric artifacts and reported sites, which may represent chance losses, redeposited material, or ephemeral occupations. In addition, the initial reconnaissance of the Lake Ray Roberts area conducted by SMU (Bousman and Verrett 1973) recorded an additional 15 sites which could not be definitely relocated by the survey (see Table 7-11).

Ignoring the admittedly important variables of time and function for the moment, however, some interesting patterns of prehistoric site distributions can be seen immediately (Figure 7-14). The most readily apparent aspect of the prehistoric site distribution in the Lake Ray Roberts area is the preponderance of sites on the eastern side of the project area, as opposed to the western side. Prehistoric sites are heavily distributed in the southern part of the project area, especially along the central portion of the Elm Fork; and along the east bank, and the central portion of the west bank of Isle du Bois Creek. Beyond this, the upper reaches of the Elm Fork show very little prehistoric material within the limits of the lake, in contrast to the upper reaches of Isle du Bois Creek, where prehistoric sites cluster along Wolf Creek, Indian Creek, the mouth and upper reaches of Buck Creek, and, to a lesser extent, along Range Creek. Sites which have been defined as macroband camps, together with surrounding clusters of microband camps, activity stations, and lithic workshop sites, are scattered throughout the lake area from the lower Elm Fork area to the northeast and along Isle du Bois Creek and its tributaries.

A large blank area in this distribution occurs along the middle portion of Isle du Bois, on the west side of the creek. This gap can be explained by noting that the majority of prehistoric sites (and site clusters) are situated so as to have maximum access to both upland and lowland environments. This can be visualized quite easily by noting that most of the sites are situated in the areas where the limits of the lake flood pool come closest to the permanent streams. The central portion of Isle du Bois Creek, just north of the Denton County line, contains large expanses of preserved terraces which are close to neither water nor upland resources.

Table 7-11.
Status of Lake Ray Roberts sites located by original
SMU reconnaissance (Bousman and Verrett 1973)

SMU Site	Present Status
X41DN4	Scatter of four flakes; could not be relocated
X41DN5	Scatter of fire-cracked rock, shell, and flakes; could not be relocated
X41DN6	Scatter of flakes and chips; could not be relocated
X41DN7	Scatter of five to six flakes with fire-cracked rock and manos; could not be relocated
X41DN8	Believed to be 41DN197
X41DN9	Believed to be 41DN17
X41DN10	Scatter of fire-cracked rock with one flake; could not be relocated
X41DN11	Late Neo-American concentration of bone, and flakes with Nocona Plain pottery; could not be relocated
X41DN12	Scatter of numerous historic and prehistoric material; could not be relocated at reported location
X41DN13	Believed to be 41DN101
X41DN14	Scatter of fire-cracked rock with two flakes and one core; could not be relocated
X41DN15	Believed to be 41DN102
X41CO11	Believed to be 41CO56
X41CO12	One flake; could not be relocated
X41CO13	Believed to be 41CO106
X41CO14	Two cores and one flake; could not be relocated
X41CO15	Believed to be 41CO20
X41CO16	0.09 ha area consisting of apparent surface scatter dating from Middle Archaic to Late Neo-American; could not be relocated at reported location
X41CO17	Believed to be 41CO29
X41CO18	Few fragments of fire-cracked rock with four flakes; could not be relocated
X41CO19	Scatter of cores; could not be relocated
X41CO20	36 m ² scatter of flakes and cores; could not be relocated
X41CO21	Believed to be 41CO51
X41CO22	Scatter of chert flakes and fire-cracked rock; could not be relocated
X41CO23	Scatter of flakes, cores, a mano, and two hammerstones; could not be relocated
X41CO24	Scatter of bifacially worked cores; could not be relocated

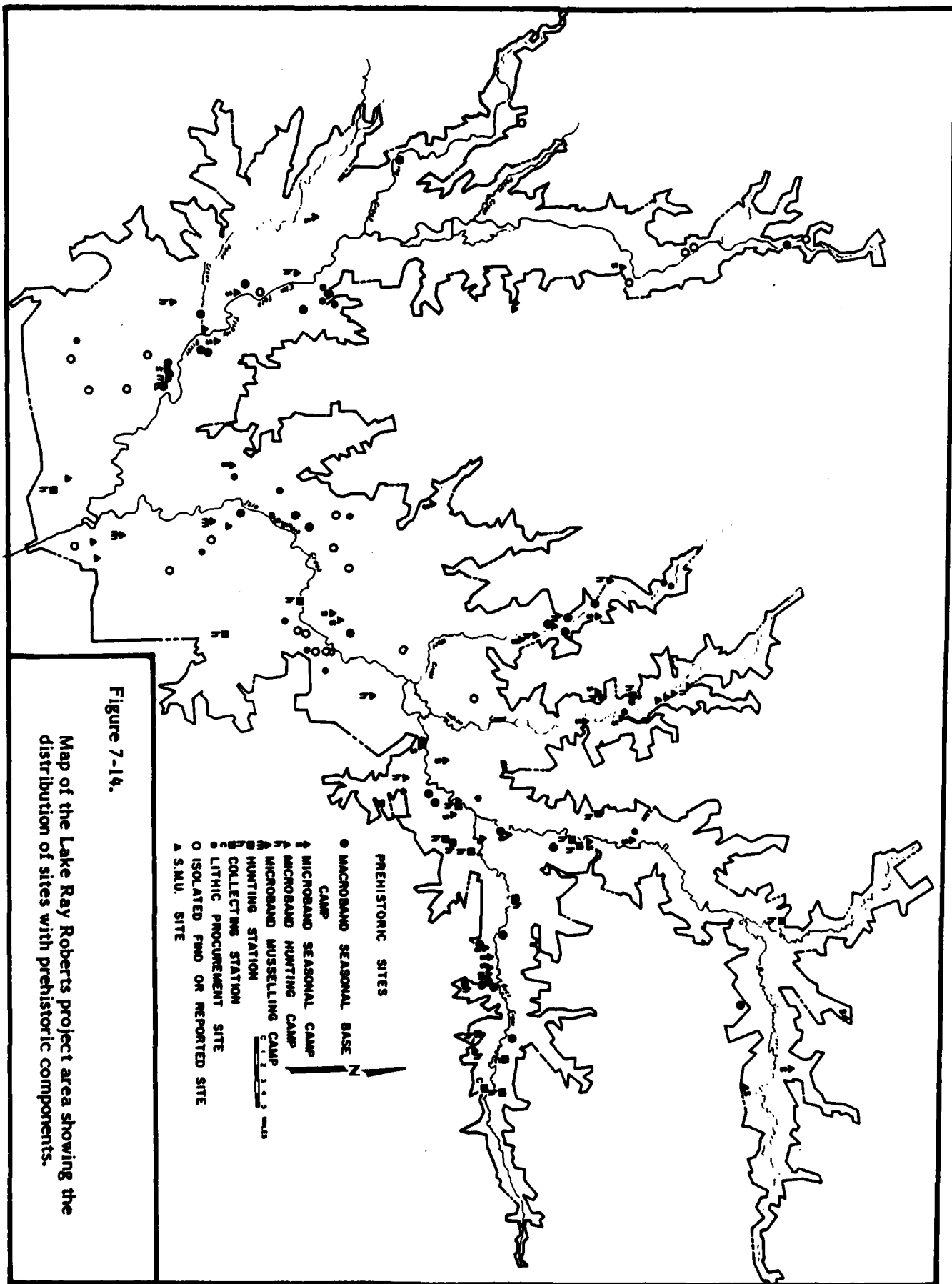


Figure 7-14.

Map of the Lake Ray Roberts project area showing the distribution of sites with prehistoric components.

The situation appears to be entirely different along the length of the Elm Fork, on the western side of the lake area. The majority of sites along the Elm Fork are situated in the southern portion of the project area, in Denton County, close to the confluence with Isle du Bois Creek. Most of the sites in this area are located very close to the main channel of the Elm Fork, and show a strong reliance on mussel collecting activities. A few lithic procurement sites have been identified in this area, but all are small and do not appear to have been systematically utilized.

Farther north, along the upper reaches of the Elm Fork, the evidence for prehistoric occupation is even sparser, and the area is generally characterized by a scarcity of prehistoric sites within the limits of the lake area. This is especially true within the floodplain of the Elm Fork, where almost nothing has been found by the survey crews. What prehistoric sites have been identified along this drainage are generally on tributaries or on the upland edges above the floodplain, and in several cases outside the limits of the lake. This situation is probably the result of two factors: (1) the lack of preservation of surface sites within the Elm Fork floodplain; and (2) an actual lack of any large permanent camps or seasonal base camps within the bulk of the floodplain. In regard to the first factor, the bedrock along this portion of the Elm Fork is softer than that along Isle de Bois Creek, and would presumably have eroded faster, resulting in a greater sedimentation rate along this portion of the Elm Fork. In addition, this portion of the Elm Fork drains the Grand Prairie area to the west, with a potentially higher rate of surface runoff and erosion. In regard to the second factor, it should be noted that the sites located within the floodplain of the Elm Fork, or its tributary, Spring Creek, appear to be seasonal collecting or musselling camps (the ones along Spring Creek and at the northern margin of the lake may have been utilized over a relatively long period of time), while no lower terrace remnants or knolls have been identified within the floodplain which would have been suitable for permanent or semi-permanent occupation.

The areas where prehistoric remains or artifacts have been identified along the upper portion of the Elm Fork are closely associated with several large areas of Pleistocene terrace deposits along the west side of the Elm Fork, but largely beyond the limits of the Lake Ray Roberts flood pool. Along the east bank of the central portion of the Elm Fork, several small prehistoric sites have been found (or were recorded by SMU), but all appear to be beyond the limits of the lake, and none give any indication of being more than short-term campsites, or activity stations. These remains may be associated with larger, more permanent campsites located to the west of the Elm Fork, on top of the large terrace deposits mentioned above. A hint that such a pattern may exist is given by the verbal identification of a reportedly large site, on top of one of these terraces, above Spring Creek. This site (now under a modern house and destroyed) was reported to have produced a number of projectile points and was, by implication, quite large. Interestingly, it was close to a reported artesian well (now gone), and may have been located to take advantage of this source of potable water.

Of the total sample of 117 prehistoric sites recorded within the limits of the Lake Ray Roberts survey area, 67 sites, comprising 93 components, have been assigned a temporal period of occupation, in some cases more reliably than in others. Using this sample as a base, tentative settlement models have been developed for the major periods of prehistoric occupation within the Lake Ray Roberts area, using the typology of prehistoric sites developed in an earlier section of this chapter. Table 7-12 presents a complete breakdown for the major periods of occupation identified within the project area, beginning with the Middle Archaic period, because no earlier remains have been identified.

Table 7-12.

Prehistoric settlement through time within
the Lake Ray Roberts area

Site Type	Sub-Type	Components					Total Sites
		Middle Archaic	Late Archaic	Early Neo-American	Late Neo-American	Un-known	
Macroband Seasonal Base Camp	1	3	3	3	3	5	9
	2a	1	3	2		6	12
	4a		1	1	2		3
	4b					1	1
	4c		1				1
	4d		2		2	1	3
Microband Seasonal Camp	2b		2	2	2	4	8
	2c		6	3	3	3	11
	2d		6	2	1	6	13
Microband Hunting Camp	3a	1	5	3	1	3	10
	3d		1	1	1		2
Microband Mussel-ling Camp	4c		2	1	1		3
	4d				1		1
Hunting Station	3b	1	2			7	9
	3c	2	4		1	2	6
	3e		1				1
	3f	1	1				1
Collecting Station	5					2	2
Lithic Procurement Site	6a					3	3
	6b				1	2	3
	6c		4	2		3	7
	6d					1	1
	6e		2		1	3	5
Untyped						2	2
Total		9	45	20	19	51	117

Paleo-Indian and Early Archaic Settlement (ca. 9500-4000 B.C.)

Despite the fact that the survey of the Lake Ray Roberts area was explicitly concerned with these time periods, no evidence could be found to support the hypothesis that the project area was either permanently or semi-permanently inhabited during the Paleo-Indian period (9500-6000 B.C.), or the subsequent hypothesized Early Archaic period (6000-4000 B.C.). A concerted effort was made to locate all private collections from the study area and to talk to all local collectors in hopes of identifying Paleo-Indian material, or assemblages identifiable as Early Archaic, with no success. Remnants of the T2 terrace system, believed to possibly contain Paleo-Indian material based on finds at the site of Lewisville to the south, were identified geologically (see Chapter III) and carefully examined with similar negative results.

Based on the geological reconstruction of the Lake Ray Roberts area in the Late Pleistocene, the majority of the western side of the project area appears to have consisted of a low energy braided stream system with numerous small narrow channels, and a large amount of swampy, wetlands areas. This would seem to indicate that the entire length of the Elm Fork, and at least the lower portion of Isle du Bois Creek, were unattractive for permanent human occupation during the Late Pleistocene, and immediate Post-Pleistocene periods. Farther north along the Isle du Bois system, the conditions appear to have been more attractive, characterized by a meandering stream system, with a cleaner and more regular water supply and generally more favorable conditions for permanent occupation. Nevertheless, the preserved T2 terrace remnants in this area are confined to the higher elevations, generally beyond the limits of the lake area. Another factor suggesting the unlikelihood of identifying Paleo-Indian sites on these higher terraces is their overall distance from sources of permanent water in the form of the modern stream channels. The more likely locations for Paleo-Indian sites, closer to the water channels, have been wiped out by later erosion and terrace formation.

The large expanses of T1 terraces along the central portion of Isle du Bois Creek appear to be more likely locations of Paleo-Indian material, but nothing earlier than what is here termed Middle Archaic was found on these terraces. Of course, up until 5000 to 4500 B.C., the T1 terrace consisted of the floodplain and would presumably have been less attractive to permanent occupation than was the case at a later point in time. Thus, material indicative of permanently occupied, or seasonally reoccupied, campsites of the time period here termed Early Archaic (6000-4000 B.C.) would have been located at the edges of the T2 terraces, if they were present at all. More ephemeral occupations within the floodplain (the T1 terrace of today) would have left sparse remains and are unlikely to have survived until the present. Nevertheless, if such occupations had existed, it seems likely that a small amount of Paleo-Indian, or Paleo-Indian derived, remains would have been present in geologically reworked context, and such was not the case. For this reason, it is suggested that up until the time that the present river system began downcutting, about 4500-5000 B.C., the area of Lake Ray Roberts was largely uninhabited.

Middle Archaic Settlement (4000-2500 B.C.)

The Middle Archaic period refers to those sites generally defined by the Carrollton focus in the McKern system (see Chapter IV). Based upon the diagnostic artifacts defined for the Carrollton focus, nine sites have been identified as having Middle Archaic components within the confines of the Lake Ray Roberts survey area (see Table 7-12). Of these ascriptions, five are felt to be reliable, while the remaining four are somewhat tentative. A tenth site, X41CO16, was recorded by the SMU reconnaissance,

but could not be definitely relocated by the survey, although it is reportedly close to 41CO20 (see Figure 7-15).

Two things are immediately apparent from Table 7-12 and Figure 7-15. The first is the relatively heavy concentration of settlement along Isle du Bois Creek, especially the upper reaches of the creek; the second is that all the sites below the level of macroband, appear to be oriented toward hunting activities, based upon the artifact assemblages. This apparently heavy reliance on hunting during the Middle Archaic suggests that this period was one of initial occupation, and that the inhabitants of the Lake Ray Roberts area during this period lacked enough knowledge of the potential resources of the area to schedule a wide round of subsistence activities, such as characterized later periods.

Macroband activity appears to have been centered around the area of Buck Creek (with 41GS65 and 41GS93), the lower reaches of Isle du Bois Creek (41DN102), and the lower reaches of the Elm Fork (41DN17). It should be noted that the ascription of 41DN102 and 17 to macroband status may be more reliable for later periods, and not necessarily accurate for the Middle Archaic period. A microband hunting camp is located below the confluence of Wolf Creek, Indian Creek, and Isle du Bois Creek (41CO56), and the remainder of Middle Archaic sites seem to be short-term hunting stations (41CO20, 47 and 52; and 41GS102). All of these sites appear to be associated with terrace or upland margins, with the exceptions of 41CO20 and the unidentified SMU site, X41CO16, both of which appear to be located within the area of the Isle du Bois floodplain, possibly on a terrace remnant. These site locations suggest that occupation occurred following the final stabilization of the T1 terrace system around 5000 to 4500 B.C., and lasted at least up until the commencement of deposition of the modern TO terrace, around 1000 B.C. (later than the Middle Archaic period was originally dated).

It was initially hypothesized that little local raw material was utilized during this period, and that a high degree of regional interaction occurred. However, results based on the survey suggest that this period was one of initial occupation, with no strong evidence for the existence of regional ties to trade and exchange. The initial suggestion that unusual artifacts such as the Waco sinker and the Carrollton axe functioned as part of a symbol system, has neither been supported nor disproved by the survey data. No examples of either one of these artifacts was found on the surface of any sites, although X41CO16 was reported to have produced a Waco net-sinker during some test-pitting (Bousman and Verrett 1973). The close association of this site with the Isle du Bois floodplain suggests a late date of occupation within the Middle Archaic period (probably after 1000 B.C.). This fact leaves open the proposition that these artifacts were deposited late in the Middle Archaic, and may be better considered as characteristic of a developing Late Archaic trade sphere, such as has been suggested elsewhere (Hall 1978; Grady 1978).

Based on the observed surface remains, Middle Archaic sites do not seem to show a significantly higher amount of non-local raw material, nor do they show a pattern of non-usage of the local quartzites available within the project area. It is true, however, that no Middle Archaic lithic procurement sites have been identified within the project area, implying that these raw material resources may not have been as intensively utilized as they were during later periods. Also, it suggests that whatever Middle Archaic exchange system existed involving the movement of central Texas chert into north-central Texas did not extend into the upper Trinity area on a consistent basis.

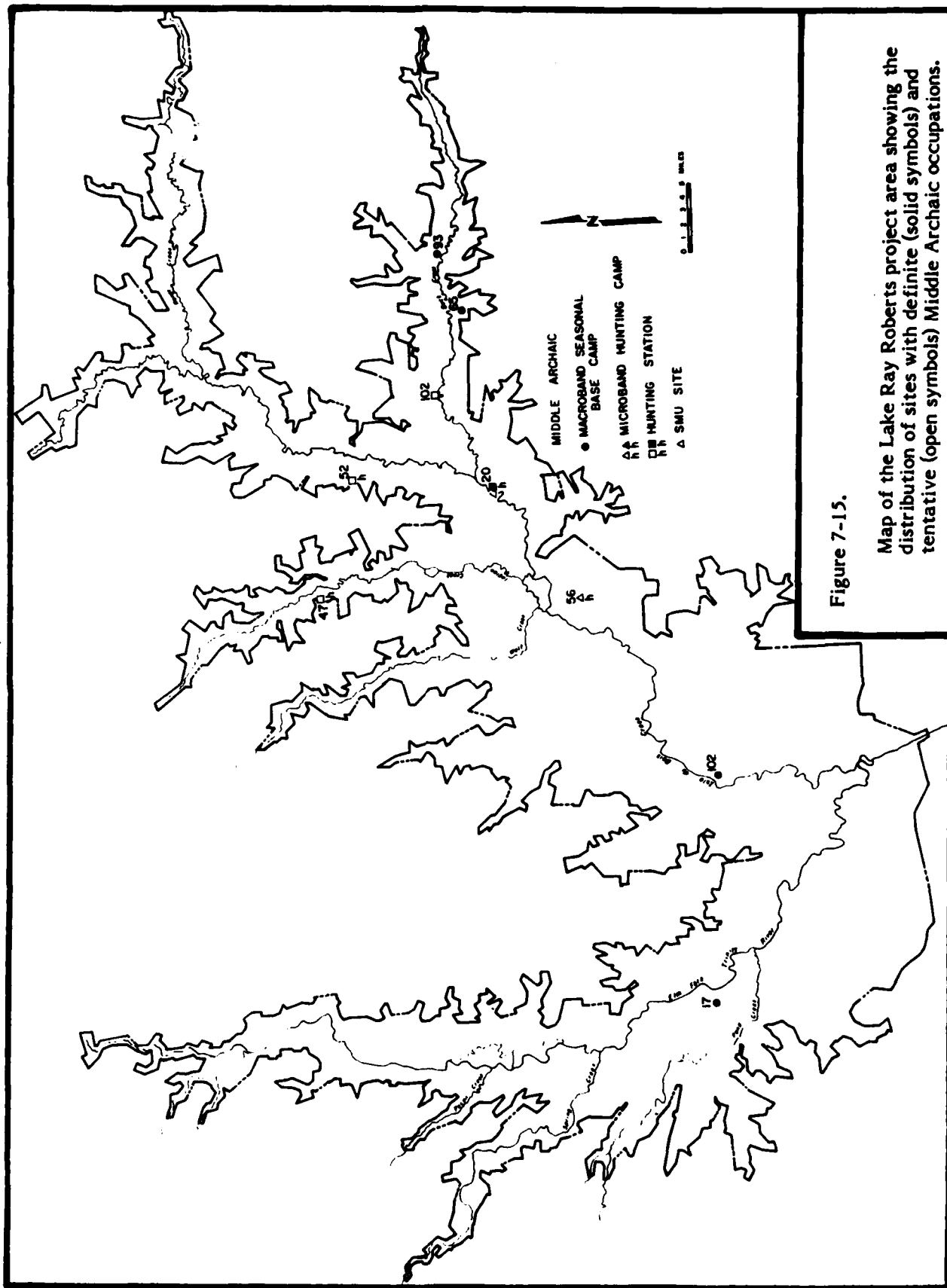


Figure 7-15.

Map of the Lake Ray Roberts project area showing the distribution of sites with definite (solid symbols) and tentative (open symbols) Middle Archaic occupations.

Late Archaic Settlement (2500 B.C. - A.D. 600)

The Late Archaic period corresponds to what was originally defined as the Elam focus in the upper Trinity basin, and it has been recognized as present at a large number of sites in the Lake Ray Roberts area based on the diagnostic artifacts of the Elam focus (see Chapter IV). In all, Late Archaic components are suggested as present at 45 sites within the survey area (see Table 7-12), of which 26 are felt to be so dated reliably, while the remaining 19 sites are more tentatively dated (see Figure 7-16). In addition, a Late Archaic component appeared to be present at the unlocated SMU site, X41CO16, close to 41CO20 along the north-central portion of Isle du Bois Creek.

Table 7-12 shows that the settlement hierarchy for the Late Archaic period is far better developed than was the case for the Middle Archaic period. The Late Archaic settlement system within the Lake Ray Roberts area is characterized by an increase in the number of site types, as well as an overall increase in the amount of total sites utilized. In addition to the macroband base camps, microband hunting camps, and hunting stations occurring with the Middle Archaic settlement, the Late Archaic also was characterized by microband seasonal camps (with some emphasis on collecting), both macroband and microband musselling camps, and lithic procurement sites. The overall picture one gets in comparing the Middle Archaic settlement pattern with the Late Archaic settlement pattern is that of a population settling in a new area, growing, and beginning to utilize all available raw material and subsistence resources.

Ten of the Late Archaic sites appear to have functioned as seasonally occupied macroband campsites, with a varying reliance on either broad-spectrum hunting and gathering (41DN102 and 17; 41CO29 and 95, and 41GS73 and 90), or mussel collecting (41DN79, 81, 101, and 103) as a subsistence base. A single cluster of these seasonal macroband camps is located in the lower Elm Fork area, around Pond Creek (41DN79, 81, 101, 103, and 17), while the others are scattered along Isle du Bois Creek and its tributaries (one on Wolf Creek, one above Range Creek, one on Buck Creek, one at the confluence of these three, and one farther downstream). Since the latter sites are all broad-spectrum base camps, and the former are all (or almost all) musselling camps, it seems likely that the seasonal subsistence round for several, if not all, of the social groups in the project area, basically revolved around movement from the lower Elm Fork area (with primary reliance on mussel collecting) to various portions of the Isle du Bois drainage (with reliance on a more general hunting and collecting pattern).

An alternative possibility is that only one group made this movement (from 41DN102 to the Pond Creek area), and the groups farther north made seasonal movements between the Isle du Bois proper, and its varying tributaries. Given the large distances involved, the latter possibility would seem to be the most reasonable. This model would propose a minimum of five social units utilizing various parts of the Lake Ray Roberts area during the Late Archaic period: one centered on the lower Elm Fork-Isle du Bois area (moving between 41DN102 and the musselling camps along the Elm Fork); one centered along Wolf Creek (moving from 41CO95 down into the Isle du Bois area around 41CO56); one centered along Indian Creek (moving from the area of 41CO45 and 106 down to sites such as 41CO35 and 57); a fourth centered along the upper Isle du Bois and Range Creek (moving from 41GS90 to the area of 41CO55); and a final group centered along Buck Creek (moving from 41GS73 to 41CO29).

The area which seems to be covered by the social group centered around the confluence of the Elm Fork and Isle du Bois appears much larger than the other four areas, but this may be a result of the fact that the four social groups centered along Isle du Bois Creek and its tributaries ranged beyond the limits of the survey area (the occurrence of

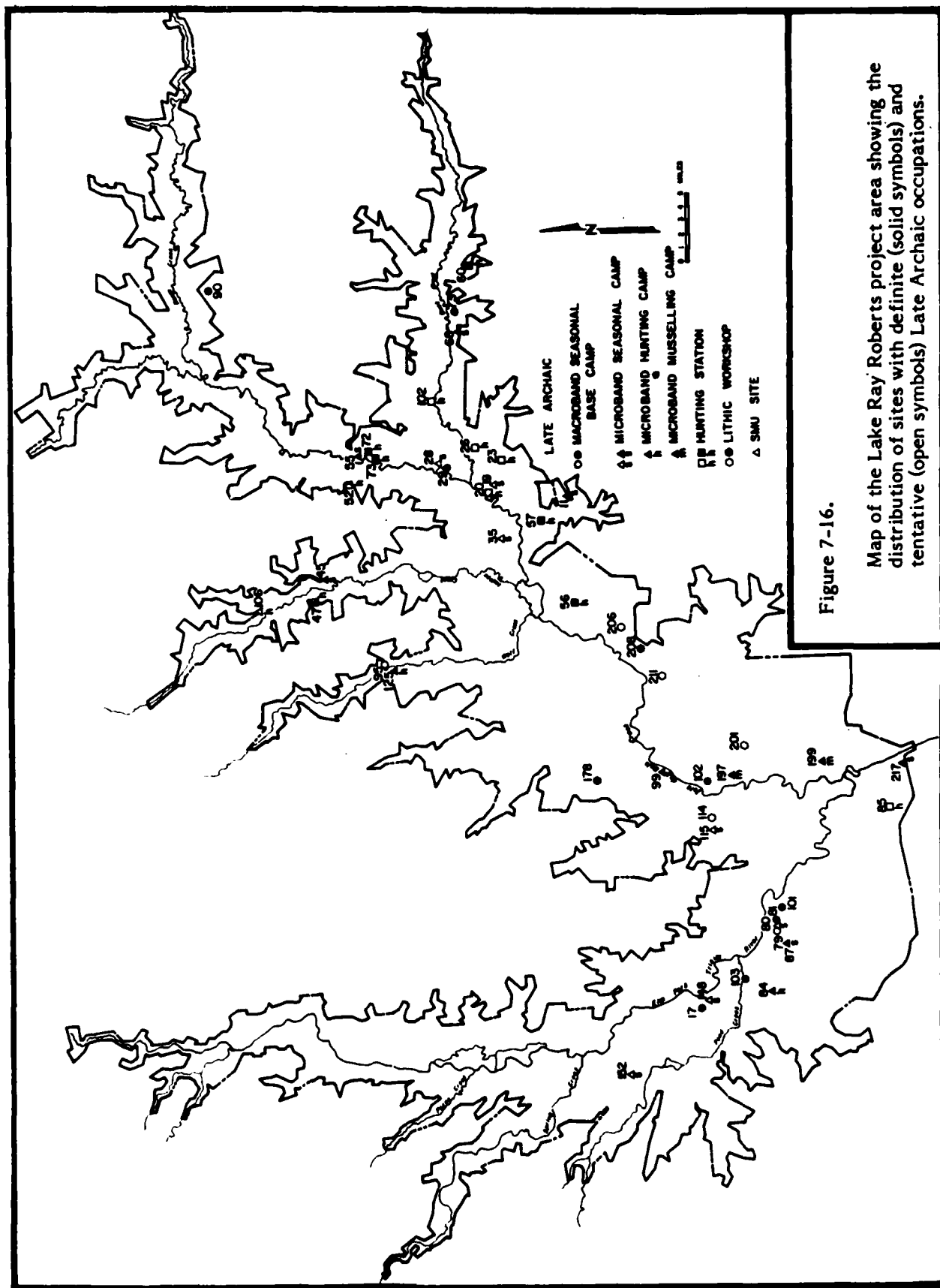


Figure 7-16.

Map of the Lake Ray Roberts project area showing the distribution of sites with definite (solid symbols) and tentative (open symbols) Late Archaic occupations.

41GS90 outside the area of Lake Ray Roberts seems to support this view), while the support area for the former social group is almost completely within the project area. It also may be that a more reliable subsistence base, in the form of mussel collecting, was able to support a larger population in this area during the Late Archaic, and that the necessary scheduling requirements for this type of subsistence base produced a higher level of social control (allowing the formation of a larger social group) than was necessary farther to the north.

Unfortunately, data collected by the survey were unable to shed any light on the several hypotheses regarding an increase in regionalism during this period. It certainly does not appear that there was any population decline during the Late Archaic and, if the number of macroband base camps is any indication, there was actually an increase by a factor of 2.5 over the earlier Middle Archaic population. This period certainly saw a more intensive utilization of local raw material sources. Other than the occurrence of projectile point types related to central Texas styles during the Late Archaic, little evidence was found by the survey to either prove or disprove the hypotheses regarding regional contacts outside the project area.

Early Neo-American Settlement (A.D. 600-1200)

The Early Neo-American period is more hypothetical than are the other prehistoric periods in the Lake Ray Roberts area, and the diagnostic artifacts for this period are based largely on limited data from excavations elsewhere in north-central Texas (see Chapter IV). Basically, Early Neo-American sites were distinguished within the project area on the basis of the occurrence of Scallorn and Alba points, often with associated larger dart points. It has been suggested that this period also was characterized by the presence of grog-tempered pottery (Lynott 1977), but none of the sites assigned to the Early Neo-American period in the Lake Ray Roberts area contained any of this type pottery (pottery in general was scarce, even on sites of the Late Neo-American period). Based on occurrence of certain projectile point types, a total of 20 sites have been assigned to the Early Neo-American period, 14 of which are felt to be reliable assignments, while 6 are somewhat tentative (Figure 7-17).

The settlement hierarchy during the Early Neo-American period appears to be somewhat less developed than that which characterized the Late Archaic period before it. This is largely because of the lack of any identified hunting stations datable to this period (see Table 7-12). All of the other types of sites present in the Late Archaic period also are present in the Early Neo-American, although they are all about half as abundant. Based on these data, the Early Neo-American inhabitants of the project area do not appear to have placed as strong a reliance on musselling activities, as did the people of the preceding period.

Only six macroband base camps can be assigned to the Early Neo-American period: 41DN102, 41DN112, 41DN17, 41CO17, 41CO18, and 41CO95. The locations of these sites indicate population centers around the confluence of the Elm Fork and Isle du Bois Creek, and around the confluence of Isle du Bois Creek with Wolf Creek, Indian Creek, and Buck Creek (although no Early Neo-American sites have been identified on Buck Creek). Microband campsites also are located on the upper reaches of Indian Creek and Range Creek.

This distribution suggests the possible presence of smaller social groups, requiring less territory, than was the case for the Late Archaic period. Thus, a minimum of five social groups are hypothesized for the Early Neo-American period in the Lake Ray Roberts area: the first along the lower Elm Fork comprising 41DN112 and 41DN17; the

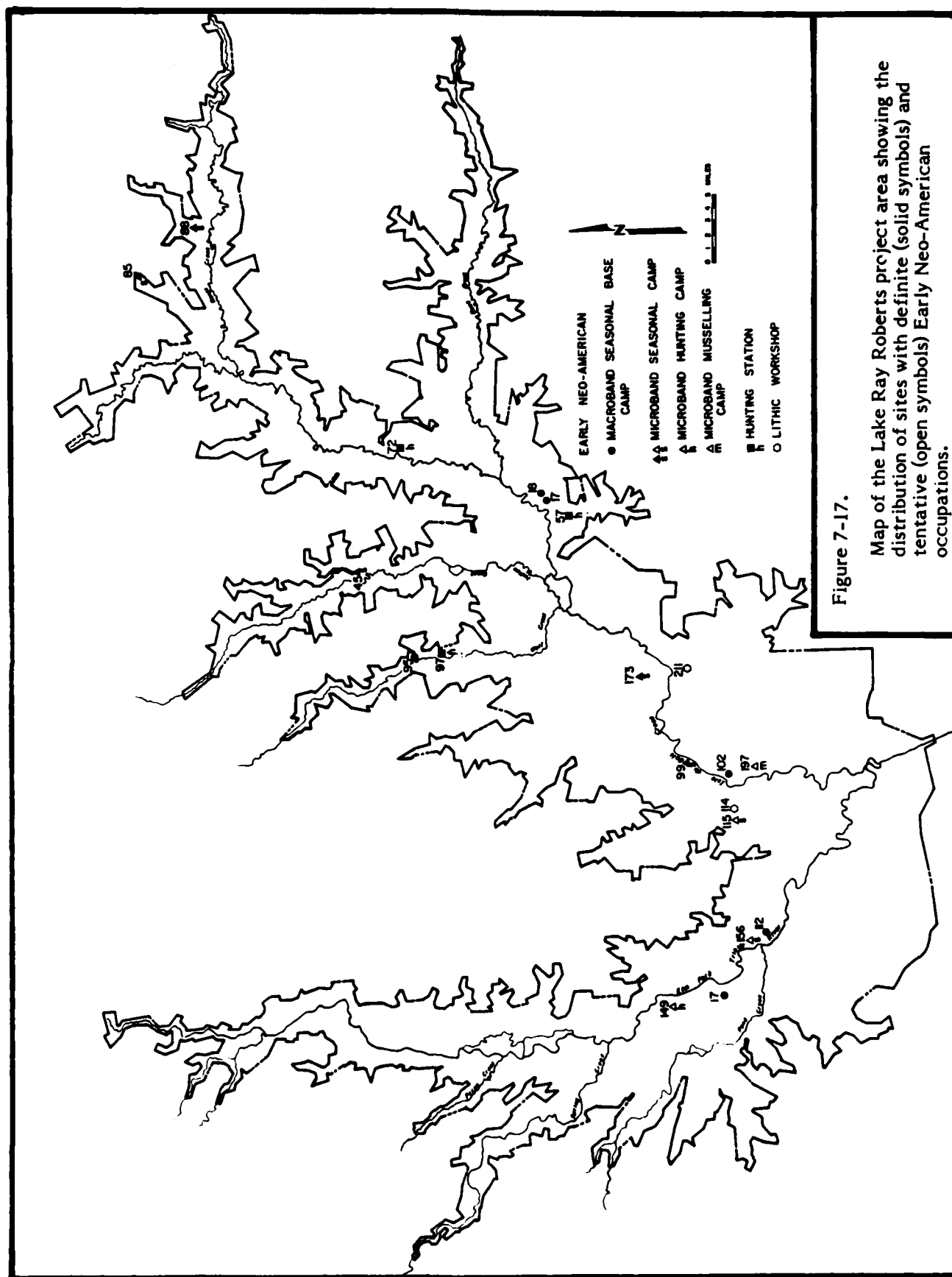


Figure 7-17.

Map of the Lake Ray Roberts project area showing the distribution of sites with definite (solid symbols) and tentative (open symbols) Early Neo-American occupations.

second on the lower reaches of Isle du Bois Creek comprising 41DN102, 41DN99, and 41DN173; another along the middle portion of Isle du Bois Creek comprising 41CO17 and 41CO18; a fourth along the upper reaches of Wolf Creek comprising 41CO95 and 41CO97; and the final one along Range Creek to the north comprised of 41GS85 and 41GS88. The presence of 41CO45 on the upper portion of Indian Creek and of 41CO72 on the upper portion of Isle du Bois Creek may indicate centers of habitation in these areas, but the evidence is insufficient to be certain. It also could be argued that the areas of the lower Elm Fork-Isle du Bois network, and the upper portions of Wolf and Indian Creeks, together with the central Isle du Bois, are both linked together in only two settlement systems, as has been suggested to be the case for the Late Archaic period. However, the overall lack of density within the entire project area, plus the relatively large distances between clusters of associated sites suggest that this is not the case.

It was originally hypothesized that the Early Neo-American period was one of increased population growth within the Lake Ray Roberts area, possibly resulting from improvements in hunting and food storage capacities. Taken at face value, the number of sites assigned to the Early Neo-American period suggest that this initial hypothesis is not the case: the number of Early Neo-American sites is less than one-half the total of Late Archaic sites, and there are just over half as many macroband base camps during the former period as there were in the latter. Nevertheless, when allowance is made for the fact that the Early Neo-American period is only one-fifth as long as is the Late Archaic, it seems likely that the population more than doubled.

A calculated temporal index, consisting of the estimated number of sites per period divided by the length of that period and then multiplied by 100, was found to equal only 1.45 for the Late Archaic period. This is in sharp contrast to an index of 3.33 for the Early Neo-American period. This would definitely indicate a population increase, or a more intensive utilization of the project area during this period. Nevertheless, this increase is not radical enough to suggest a radical shift in subsistence efficiency. Thus, it appears that, as was originally hypothesized, the practice of agriculture was not adopted within the Lake Ray Roberts area during the Early Neo-American period.

Late Neo-American Settlement (A.D. 1200-1600)

Sites of the Late Neo-American period in the Lake Ray Roberts area have been defined largely on the basis of projectile point types considered to be diagnostic of the Henrietta focus in north-central Texas (Suhm et al. 1954), and what has more recently been defined as the Late Neo-American (Lynott 1977) (see Chapter IV). Basically, these consist of shell-tempered ceramics, with Fresno, Harrell, Perdiz, and Clifton points. From the survey of the Lake Ray Roberts area, it appears that all ceramics are entirely confined to the Late Neo-American period in that area, and what there is of it is very sparse.

A total of 19 archaeological sites containing Late Neo-American components have been identified within the limits of the Lake Ray Roberts area (see Table 7-12). Of these 19, 11 are considered to be reliably dated to this period, while the remaining 8 are only tentatively assigned to the Late Neo-American period (Figure 7-18). In addition, one of the sites located by the SMU reconnaissance could be assigned to the Late Neo-American period (X41DN11). Seven sites have been classified as macroband campsites, and the distribution of these sites seems to indicate population centers along the lower Elm Fork and the lower part of Isle du Bois Creek, with potential smaller centers on the upper reaches of Wolf Creek, Range Creek, and Isle du Bois Creek. The two main site clusters seem to be centered around 41DN102 and 173, and around 41DN112 and 17.

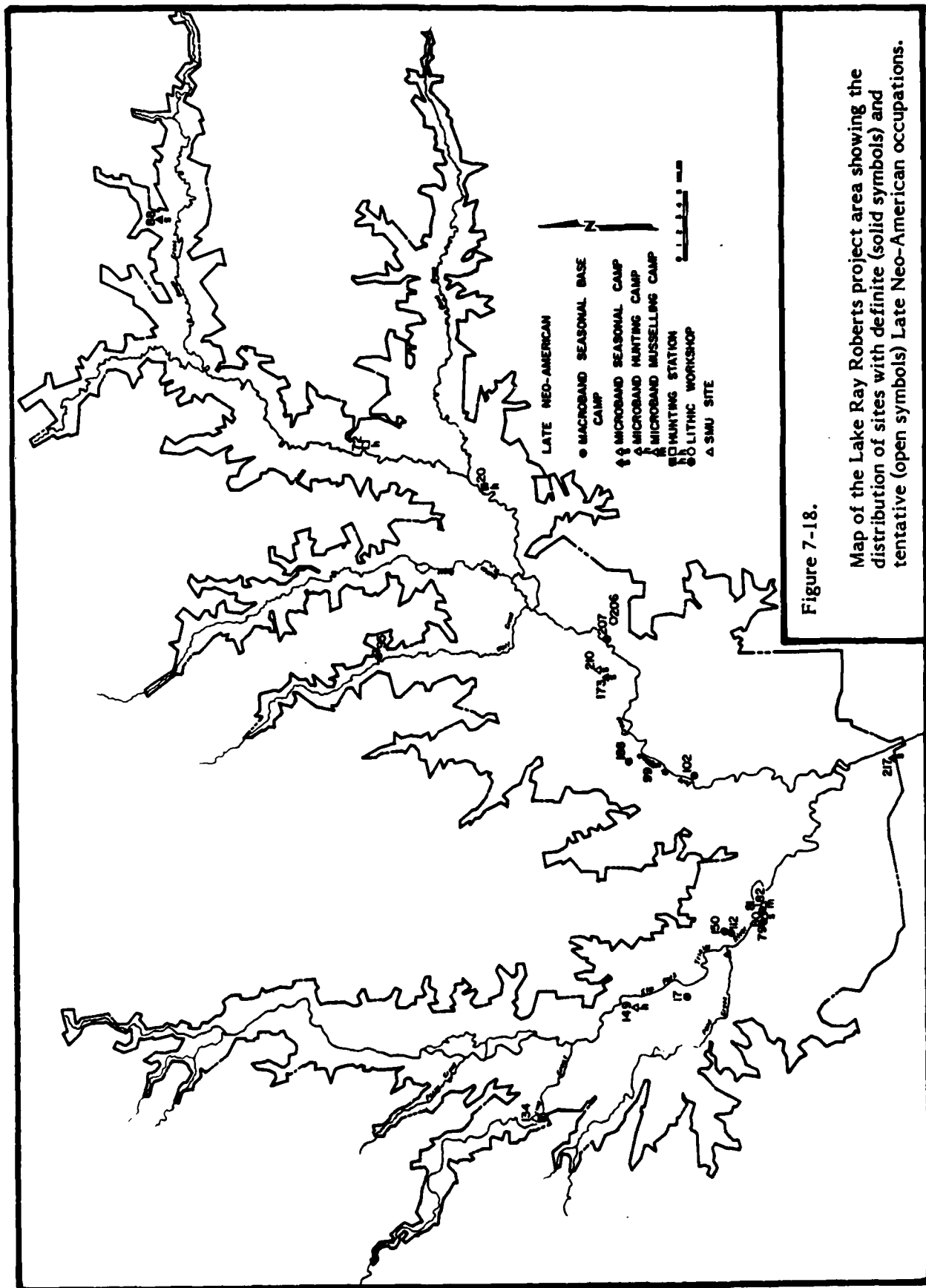


Figure 7-18.

Map of the Lake Ray Roberts project area showing the distribution of sites with definite (solid symbols) and tentative (open symbols) Late Neo-American occupations.

The settlement hierarchy indicates a return to the broad range of hunting and collecting activities which characterized the earlier Late Archaic period, including a more intensive utilization of musselling camps along the lower Elm Fork. The tentative identification of a Late Neo-American component at 41CO134 suggests a more intensive utilization of the lower Elm Fork in general during this period.

The temporal index of occupation for the Late Neo-American period is equal to 4.75, showing a continued population growth over the earlier period. However, the growth curve seems to be leveling out during this period, indicating that the population size was approaching the limits which could be supported under the old social and subsistence system. This suggests that agriculture was either never adopted in this area, or did not last long enough to have any effect on the population. Likewise, the continued relatively small sizes of the sites, the lack of pottery, and the resemblance of the Late Neo-American site hierarchy to that of the Late Archaic period, all indicate that the overall subsistence pattern did not change, and that permanent sedentary occupation never became important.

It has been hypothesized that, following A.D. 1350, there was a reorientation of the inhabitants of the study area from hunting and collecting within the Cross Timbers area, to bison hunting on the prairie (see Chapter V). Certainly the apparently more intensive occupation on the lower Elm Fork during the Late Neo-American suggests the possibility of such a pattern. However, the apparently more intensive utilization of the local resources (such as mussels) indicates that the prehistoric inhabitants were not abandoning the area entirely. Actually, the lack of datable remains along the upper Elm Fork, plus the high likelihood for prehistoric occupation beyond the limits of the lake in this area (see above), makes any conclusions regarding the specific relations between the inhabitants of the western project area and the resources of the Grand Prairie to the west highly tenuous.

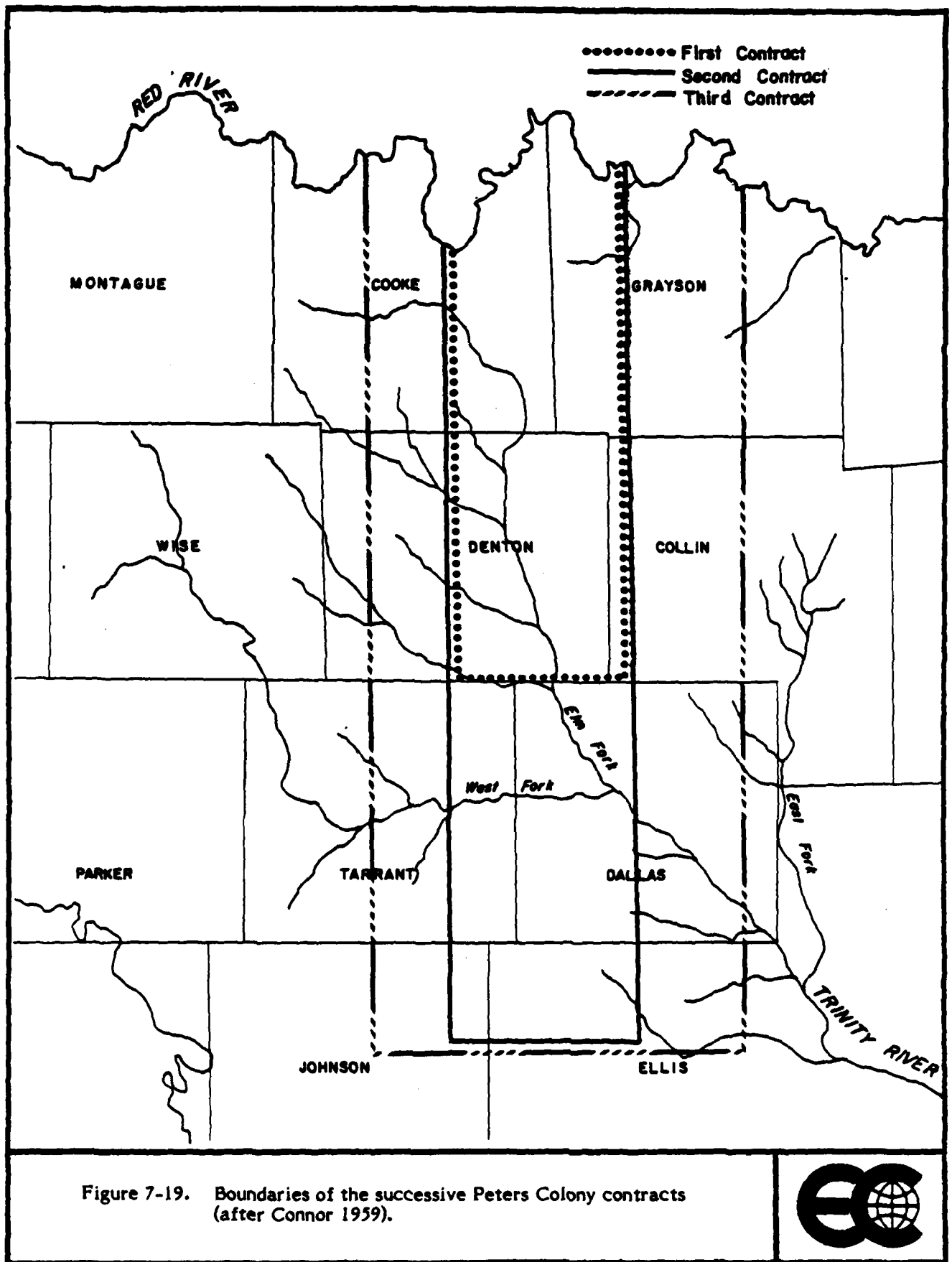
History of the Lake Ray Roberts Project Area

As discussed in the Research Design, the history of the Lake Ray Roberts area may be modelled as occurring in four stages: Initial Settlement, Spread of Settlement, Competition, and Ranching and the Rise of Agribusiness. The temporal division presented here is slightly different than that in the Research Design, because of specialized local historical circumstances that shifted developmental periods one way or the other by a few years.

Initial Settlement, Pre-1847

The first effort at white colonization in north-central Texas was made by John Cameron in the Red River valley in 1828, but failed because of the isolation of the settlers and trouble with hostile Indians (Collins 1981:11). A second attempt at colonization was made in 1841 by the Texian Land and Immigration Co., otherwise known as the Peters Colony (Connor 1959:25; West 1973:1). The company secured a grant of land in the Cross Timbers section of north Texas on which to establish new immigrants to Texas (Figure 7-19). In return the company was to be given 10 sections of land for every 100 families settled, and one and a half sections for every 100 single men (Cowling 1936:11).

Only non-Texas residents were eligible for free Colony land because the Republic wanted an influx of new settlers rather than a rearrangement of settlers already in Texas (Cowling 1936). This fact helps to explain the numerous migration routes used to get to the project area, and the variety of states from which the new settlers



emigrated. Each mature head of household, including widows, was entitled to 640 ac of land. Unmarried males over 17 years of age received 320 ac apiece. No provisions were made for single women (Connor 1959).

In return for the company's assistance in surveying the land and making improvements, the company was to receive half of each settler's claim (Collins 1981:14; Connor 1959: 22-25). In the early 1840s, the colonists began taking up residence in the Cross Timbers area along the Elm Fork and its tributaries (Connor 1959:6-7; O'Brien 1944:14; Lucas 1936:68). By 1850, the colony had 8,414 people in the six-county area, including 591 slaves (White 1966).

The Cross Timbers provided access to water, timber, and protection from Indians. Timber was needed for homes, fences, and fuel. It also was believed that prairie land was less productive than timbered land (Grace 1944). The prairie sod itself was a barrier, as settlers preferred to clear the timber from a field rather than turn the tough prairie sod (Strong 1914:3; Everett 1927:60). Breaking prairie sod required specialized technology in the form of a heavier plow that would withstand the great force needed to turn sod, and often the task of breaking sod was hired out.

The first occupants of the Peters Colony settled along streams in the Cross Timbers, breaking out small fields for farming (O'Brien 1944:24). The Blackland Prairies were thought good only for livestock and were avoided because of the labor involved in breaking the sod. Early farms were subsistence farms, raising corn and hogs along with other produce to be consumed by the family (Bates 1918; Cowling 1936; Grace 1944; Bureau of Business Research 1947; Walter 1969). About the same time that the Peters Colony began operations, George Diester brought a group of German colonists to the area around the community later known as Dye schoolhouse. This settlement was destroyed by disease (O'Brien 1944:12).

Travelling by both water and land, migration routes to the Cross Timbers were as varied as the settlers' points of origin. Rivers were an important means of transportation (Walter 1969) for the colonists in the project area. For those emigrating to Texas, water transportation was available via the Ohio, Cumberland, Tennessee, and Missouri rivers. All of these rivers empty into the Mississippi River, which in turn provided access to the Red River and the Arkansas River, leading finally to an area known historically as the Cross Timbers (Cowling 1936). Ox-drawn carts were the common mode of transportation for immigrants ca. 1840 (Webb 1952b). After the settlers arrived, oxen were used for hauling timber and breaking sod, and in other farm-related work where great strength was required. Draft animals were an essential element in settling the area, since the Peters Colonists' contracts called for putting 15 ac into cultivation to keep their land claim (Connor 1959).

Preston Road, which was built in 1844 after the colony began operations, aided the settlement process; it ran along the eastern edge of the Cross Timbers north from Dallas and thus provided access to settlements in Grayson, Collin, Cooke, and Denton counties (Strong 1914; Bates 1918; Cowling 1936; Smith 1955).

Spread of Settlement, 1847-1885

The Spread of Settlement period can vary greatly on a local level. Spread of settlement is used here to mean the arrival of families, relatives and new immigrants, resulting in the evolution of actual neighborhoods and rural communities (Figure 7-20). In the case of the project area as elsewhere in the South, the Civil War disrupted the gradual

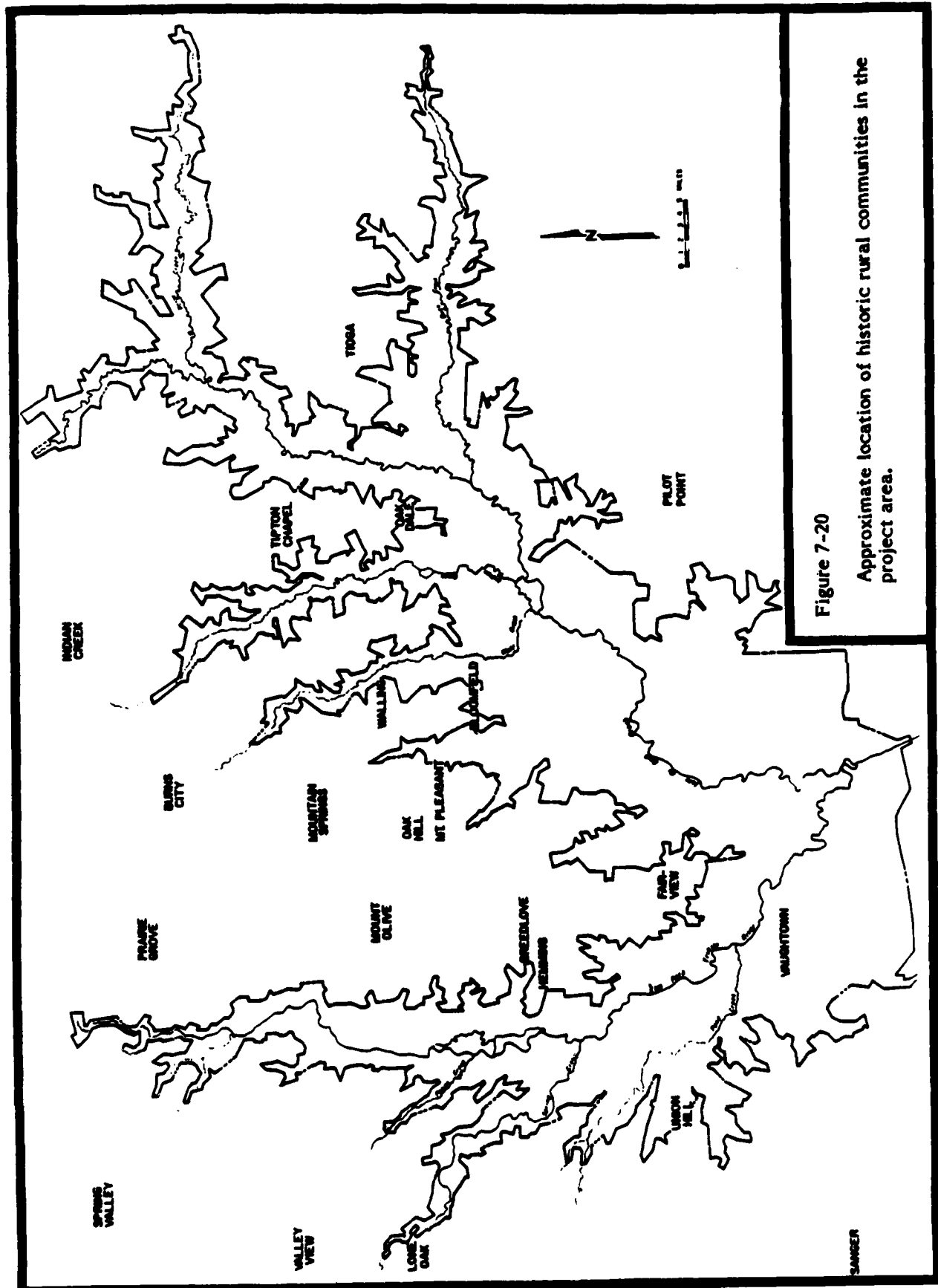


Figure 7-20

Approximate location of historic rural communities in the project area.

accumulation of population in the area. Therefore, this period can be subdivided into three historical stages.

Peters Colony Settlement, 1847-1858

The Peters Colonists arrived in two waves of immigration. The first wave of colonists, estimated at more than 800 people, were all in the area and established by 1845. Despite the ambiguity, indifference, and ineptness of the Peters Colony administrators, the new settlers established land claims and were forging a new life for themselves on the Texas frontier (Connor 1953). According to Connor, 822 colonists arrived in the first wave, but 22% died before 1850. An average mortality rate for the Texas frontier has not been established, so it cannot be stated that this percentage was exceptionally high. Typhoid fever was one cause of mortality in the project area counties, as was Indian resistance and the lack of support by Colony officials. Because of Indian troubles and the slowness with which the immigration company was fulfilling its obligations, there was a general exodus from the colony during the years 1845 and 1846, which left only 15% of the original colonists still residing in the area (Connor 1953; Williams 1976).

Diversification was evident early in the project area counties' populations. Because Peters Colony land was offered free to colonists and with few restrictions concerning land development, professional and artisan classes emerged early in the project area. By 1850, 115 professionals, artisans, tradesmen and other non-agricultural jobs were reported in the Denton County Census, as compared to 578 persons who gave their occupations as farmers. Grayson County had 161 non-farm related occupations listed, compared to 298 farmers. Cooke County had 490 farmers and only one non-farmer (Williams 1976).

Communities were beginning to take shape in 1847 and 1848, as forts were built to protect the colonists at Dixon Station east of Pecan Creek and Fitzhugh's Fort 3 mi southeast of Gainesville's present site. The first settlers of the Lake Ray Roberts project area were just arriving during this period. On the peripheries of the project area, to the north, south, and east, the first evidences of communities were beginning to develop. The first school in Cooke County was established in 1847 on Wolf Creek near what was later to be the Burns City Settlement (Smith 1955). The county itself was organized from Fannin County in 1848. Denton County had been formed from Fannin County in 1846. The bulk of the Denton County population was in the southeastern part of the county, but Pilot Point was established as an early village by 1846, preceeding rural settlement in that corner of the county (Bates 1968; Walter 1969).

One auspicious aspect of the Pilot Point town site was an excellent water source known as Dripping Springs. Proximity to good water was crucial on the north Texas frontier (Webb 1952b). The springs encouraged settlement in the immediate area, and the Ellemans were the first families to settle in the area (on Christmas Day, 1854). George Newcomb platted the town square. By 1856 the town had a community-supported (subscription) school (Webb 1952b).

South of the project area, the Denton County seat had been moved to the center of the county in the late 1840s, and the first courthouse was built about five miles south of present-day Denton by 1850. Grayson County's development was equally slow--the first courthouse was erected in 1847, but the village of Gainesville was not founded until 1850 (Webb 1952a).

Farms of this period were concentrated in the Cross Timbers. There was yet no means to fence crops on the prairies to protect them from free-roaming animals (O'Brien 1944: 14; Walter 1969:26; Odum 1980:1-43, 45). The cost of transporting fence rails out onto the prairies was prohibitive.

Jordan (1980: personal communication) feels that initially, agriculture in the Cross Timbers consisted of slash-and-burn clearing techniques. Certainly, agriculture was primarily subsistence vegetable farming and growing corn, a primary crop used to feed both farm families and their stock. Cash crops required lengthy field preparation and proper planting, and thus were included only later and on a smaller scale. Both cotton and grains were used initially as cash crops.

In general, hogs were the major source of meat in the settlers' diet because they could be left to forage in the uncleared woodlands and butchered when needed. Those products that could not be raised or manufactured on the farm were all but impossible to obtain. Small numbers of poultry, including chickens, turkeys, and geese were raised. Wild game and fruits, berries, and greens were used to supplement the settlers' diet (Cowling 1936; Walter 1969).

The prairie lands were used to raise horses and cattle for export. Sheep were raised and their wool used locally. After 1850, with the development of cattle and cotton, farms in the area became less self-sufficient (Walter 1969:26). There were few minerals to be found in Denton and Cooke counties, with the exception of an almost inexhaustible amount of clay. The clay deposits attracted several immigrant potters to the Denton area in the 1850s and 1860s, and spawned the development of the brick-making industry (Meyers 1977; Bureau of Business Research 1967). The freighting industry was important in Cooke County from the annexation of Texas to the Civil War. Most supplies were hauled to the colonists from Jefferson, Texas. The colonists in turn shipped wheat, oats, and corn north and west to government forts. Some items, such as kegs, tubs, and buckets were produced at home for local use and for sale.

Retreat From the Frontier 1858-1870

A sequence of events beginning in 1858 led not only to slowing the rate of settlement in the region, but to an actual retreat from the frontier west of Gainesville, and thus endangering the settlements in the Cross Timbers. The first event in the sequence was a grasshopper infestation in 1858, a severe financial blow to the fledgling farmers in the area (Odum 1980:1-22). The second link in the sequence was the Civil War.

The year 1860 was one of almost mass hysteria in much of north Texas. The population of the project area was not exempt from this panic. The summer of 1860 was marked by extreme heat, wild rumors, and sectional conflict. Rumors of agitation by free blacks, abolitionists, and slave revolts were rampant, some of them emanating from Pilot Point (Lucas 1936). There were reports of arson and poisonings. Fires in Dallas, Denton, Sherman, and other north Texas towns gave credence to the rumor of a black revolt (Greene 1973). Numerous local blacks were hung as a result, and "Yankee" abolitionists were believed to be the main instigators. Many reports of black uprisings were published in local newspapers (Lucas 1936).

After Abraham Lincoln's successful presidential campaign, a meeting of Cooke and Grayson county settlers was called in Whitesboro to "take into consideration the present political condition of the county" (Lucas 1936:99). In May of 1861, William L. Young, a Confederate soldier, raised a regiment of men from several counties including Cooke, Grayson, and Denton. Indian territory provided an easy avenue of escape for those

wishing to avoid the conflict, an event Lucas (1936) has associated with the increase in cattle thefts. As local men left to join the Confederacy or (on occasion) the Union, homesteads were left in the hands of women, children, and old men. Much of the responsibility for guarding the home from intruders was placed on the shoulders of young boys (Odum and Lowry 1975). The few slaves in the area remained with their owners and families, creating none of the trouble predicted by the popular press. Vigilante committees were formed in Grayson County to handle the increased cattle theft encouraged by the decreased manpower. One such committee made it its business to confirm the identity and business of transient strangers in town (Lucas 1936).

The social and political effect of the Civil War on the project area was profound. For instance, citizens in the eastern Cross Timbers of Cooke County were vehemently opposed to the Confederate Conscription Act of 1862 (Smith 1955; Walter 1969). An organization of 1,700 men from Cooke, Grayson, Denton, and other counties formed the Union League to oppose the measure. In October of 1862, 42 men were hung at Gainesville for their participation in the League (Collins 1981).

The Civil War exacted an economic price from the region as well as a number of lives. Taxes were increased during the war, especially affecting the many widows in Grayson County. A tax of 25¢ per \$100 valuation was established in 1862. This rate was increased to 75¢ in 1864 (Smith 1955). During this period of economic and political turmoil, schools were closed and public education ceased (O'Brien 1944).

The third link in the sequence of events that led to a retreat from the frontier was probably the most serious. Because of the manpower drained for the prosecution of the war, the frontier was left unguarded from Indian attack. Anglo settlers, from the time they first arrived in the area, had pushed the Indians farther north and west onto less desirable land. In 1846 and 1848, treaties with the Comanches and Kiowa assured their leaders of good lands and military protection, in addition to an end to further Anglo encroachment. Not until 1854 did the U.S. Government establish the Brazos reservation. Once the reservation was established it was poorly supplied, and finally abandoned in 1859 (Collins 1981:51). In the late 1850s a band of Comanches began attacking the Texas frontier (Strong 1914:11; Collins 1981:51). In October of 1858, Col. James Bourland reported that 30 families had moved from their farms into Gainesville. The settlers raised volunteers to patrol and built stockades, but these measures were ineffective as the raids continued through and beyond the Civil War and increased in regularity. In 1863 Col. William Twitty wrote, "unless we get troops at once on our frontier, the entire frontier will be broken up." In 1866, a delegation from Cooke, Montague, Denton, and Wise counties confronted officials and threatened to evacuate the area if help was not sent (Collins 1981:53,55,59,62).

The Kiowa raid of 1868 was the worst raid in this series. After this raid John Wheeler wrote in his diary: "Gainesville is now the frontier with the exception of a few families (west) of town and they intend on leaving soon." Shortly after 1868, the U.S. Cavalry and the Texas Rangers defeated the Comanches and Kiowas and secured north Texas for settlement (Collins 1981:67-68).

One of the few rural areas that developed in the Denton County area was Oak Grove, which was centered around a Methodist church. William Bates had organized the settlement of Oak Grove in 1851, but the community had not grown much prior to the coming of the railroads in the 1870s (Webb 1952b). This was generally true throughout the project area.

One developing village in Cooke County was Mountain Springs, settled by Joe R. Burch and his brother, both from Montgomery, Alabama, in the early 1850s. The community had one of the earliest rural stores circa 1870 (Webb 1952b).

Resumption of Settlement 1870-1885

With the end of the Indian raids, new settlements once again began to appear on the landscape. Most of the land in Denton County had been patented by 1870, but some land was still available under the homestead law and for purchase (Odum 1980). The 1870s saw Cooke and Denton counties increase in population, though Grayson County was very thinly settled at the time (Lucas 1936; O'Brien 1944; Odum 1980). Many settlements either had their beginning or became more firmly established in this period.

These settlements soon became more than just habitation areas. Individual communities began setting up schools for their children. In the early 1880s fraternal lodges began appearing in the communities, and two-story lodge halls began to be constructed. The first floor of these halls was used for schools and church services, while the second floor was used for lodge meetings, thus housing several major social functions of the community in a single structure (Lucas 1936; Smith 1955).

A primary impetus for the new influx of population into the area was the coming of the railroads to north Texas in the 1870s and early 1880s, bringing both people and trade to the area. The Missouri, Kansas, & Texas Railroad reached Denison in 1873 and Gainesville in 1879, the Houston, Texas, & Central (HT&C) Railroad reached Sherman from the south in 1872, the Texas & Pacific (T&P) Railroad reached Tioga in 1881, both the Missouri, Kansas, & Texas Railroad and the Texas & Pacific Railroad reached Denton in 1881, the Santa Fe reached Sanger in 1886, and the Gulf, Colorado & Sante Fe (GC&SF) Railroad reached Gainesville from the south in 1886 (Odum 1980). The GC&SF had some negative influence on the population of Gainesville, as it facilitated some immigration to Oklahoma (Anonymous, n.d.,a). Thus by 1886, no part of the project area was more than about 20 mi from a railroad depot, and most were much closer. The growth of the area in the 1870s and 1880s was manifested in the small towns springing up on the landscape. Valley View was established in 1878; Burns City was incorporated in 1883.

Agricultural development in the area prior to 1870 had been stunted by war, falling farm prices, insects, droughts, floods, and Indian activity. Major urban centers were developing on the periphery of the project area, but none were located inside the project area boundaries. Three rural centers, however, were beginning to be visible. Not until the railroads were well entrenched did these rural areas become distinct, identifiable communities. During this period no rural industries developed. Bloomfield in Cooke County, was established in 1875, when several related families settled in close proximity to one another (Webb 1952a; Odum 1981). As was the custom, when one family settled in an area they were often joined by their relatives. Old families in this community included the Jones and Sanders. Hemming was established in 1887, serving the Sullivan settlement that had begun from along the Elm Fork in Denton County in the late 1850s. Also in Denton County, Cosner (later to become Vaughtantown) was settled by the Cosners and later purchased by Aubrey Vaughan (G.W. Vaughan 1981: personal communication).

During the 1870s many rural schools and churches were established in the study area, and people began to perceive themselves as belonging to localized rural neighborhoods. The impracticality of long distance travel necessitated rural supply centers, which were located about 5 mi apart from each other in this area. The average rural community

size seems to have encompassed a roughly circular area about 8 to 10 mi in diameter. There seems to have been a buffer zone or unnamed area where individuals identified themselves as being between communities, while associating socially with one or both (Johns 1981: personal communication).

The heaviest concentrations of population in the north Texas region were located near the Central National Road, the cattle trails, and along rivers and creeks. In the project area, the Elm Fork of the Trinity formed not only a geographical barrier but also a social one. The two groups on either side of the river rarely mingled socially, although in some cases their children attended the same schools. Initially, the river may have been a geographical barrier to travel; however, the social distinction has remained in the oral tradition to the present day (B.F. Jones 1981: personal communication).

The cattle business became prominent in Denton and Cooke counties about 1866, and by the 1870s was contributing greatly to the growth of Denton and Cooke counties (Cowling 1936; Lucas 1936; Bureau of Business Research 1947; Collins 1981). Gainesville was in a particularly enviable position, having situated itself between two major cattle trails, the Chisholm Trail to the west, and the Sedalia Trail to the east (Collins 1981). Though there were few blacks in Cooke County, some of the newly emancipated blacks found work on the ranches as cattle hands when they were no longer welcome on the farms as paid labor (Smallwood 1975). At no time were there more than a few blacks in the project area, although a few worked as domestics, hired hands, and cattle hands (Smallwood 1975; Odum 1980; Calhoun 1981: personal communication).

Cash crops were secondary to food and feed crops during this period. Farms produced corn, wheat, oats, Irish and sweet potatoes, garden vegetables, orchard crops, cattle, hogs, chickens, horses, and mules. Most farms produced butter, which was sometimes marketed locally. By 1870, very little cheese was produced domestically, most of it coming from the factory. Though local credit was difficult to obtain and wholesale farm prices fell by about one-half from the early 1860s to the late 1890s, these factors were initially not a detriment to farmers in the area. Low overhead made it possible to pay for a farm in 1 to 3 years, and most were subsistence farmers who did not depend on their cash income for their living (Odum 1980). Few gins or mills established prior to the 1870s were located within the project area or nearby urban areas.

Competition, 1885-1935

The Competition phase occurred later in this area than was predicted in the Research Design. This was a result of two factors. First, as discussed above, the usual progress of settlement was severely disrupted twice, by the internal problems of the Peters Colony management and then by the Civil War and the retreat from the frontier. Second, the effect of the arrival of the railroad was not equal in all parts of the project area, since it took an additional 5 years after the railroad approached the boundaries of the study area for all parts of the project area to have a nearby rail shipping point.

From 1885 on, the railroads continued to bring new settlers into the area and stabilize communities. In addition to contributing to the numbers of people needed to establish community institutions such as churches on a permanent basis, the railroads contributed to colonization efforts. The MK&T Railroad not only gave passes to the Flusche Brothers so that they could inspect land in north Texas for German Catholic settlements, but made the success of colonization efforts more feasible by the very existence of the railroad once the colonization began (Anonymous n.d.,b). Immigrants into the project area were predominantly from the Lower South, especially Alabama (Jordan 1967). Large numbers of settlers came from Missouri, Tennessee, South

Carolina, and Mississippi. Members of ethnic groups, such as Czechs and Germans, arrived in the project area counties during this period, although most settled near urban centers instead of in more remote rural areas. Craftsmen of these different nationalities were influencing local architecture by the 1880s and 1890s, notably in such structures as fraternity lodge houses. By the late 1880s, when many foreign-born settlers arrived, large tracts of farmland were more difficult to obtain, and this scarcity was a primary factor in determining the pattern of their settlement.

A crescent-shaped pattern of Czech settlement was observed by Jack Murphy (1970). Murphy's observations of cemeteries in southwestern Grayson County indicate that Czech settlement did not occur in that county before 1880, and that Czech settlement in the project area was a result of twentieth century expansions. Population statistics for the period 1920 to 1940 suggest that Czech settlement may have leveled off between 1920 and 1930 in this area (Bureau of Business Research 1947).

The primary German settlement near the study area was in the vicinity of Pilot Point. The Catholic Press advertised the opportunities of Pilot Point settlement, but prior to 1891 only one family, the John Burger family, was German Catholic. By 1917, the Pilot Point congregation was so large that they were discussing building a new church to replace the one built in 1892 (Hardaway 1974). Smith's (1955) work also refers to Catholic colonizers from Iowa and Kansas who established colonies at Hemming and several other nearby small communities.

The Competition stage was a period of rural growth, with stores, rudimentary schools, and/or churches present every 5 or 6 mi throughout the project area. Railroad towns were laid out along the new lines. Population increased as the railroads developed, and with that growth came the need for new communities and institutions. Access to improved transportation and increasing population density in rural areas made cash crops feasible for project-area farmers (Walter 1969). Better markets led to increased agricultural diversification, and increased population density encouraged the formation of smaller, more cohesive neighborhood groups.

Major urban centers were established in the 1870s and 1880s on the peripheries of the project area, and these towns are still secondary trade centers for the rural population today. Historically, these urban centers provided markets for crops as well as supply centers for purchased goods. Because the urban centers close to the project area and the project area communities developed during roughly the same time period, rural commercial centers such as Cosner/Vaughantown were never primary trade centers but rather were closely linked to larger urban supply centers from their inception. This dual urban/rural development may account for the lack of strong identification with a neighborhood evident in interviews with older area residents. Informants tended to identify more strongly with their county than with a specific rural community. Other probable results of this growth pattern are the lack of rural industry in the project area during the early part of the Competition period, and the unusually few country stores known to have operated in the area. Industrial sites serve to keep the local populace locally employed, while the rural store was and is a social center for communities. One or both contribute heavily to continued rural identity, and without them communities are likely to be neither cohesive nor long-lived.

It is probable that, because of the size of the project area and the time and budget limitations of the interviewing process, some communities were not identified or named in compiling this history. However, numerous small, delineated communities were identified. A significant percentage of the areas labeled as neighborhoods or communities proved to have similar developmental patterns. Although early settlers

may have homesteaded in future communities, few areas were named or were spatially defined before the late 1870s and early 1880s. Most of the neighborhoods had declined dramatically by 1920. Community identity dissipated rapidly when the rural schools, the main social unit for many of the neighborhoods, were consolidated with Union Hill School in the 1930s. Further disintegration occurred when the schools were further consolidated in the 1940s, this time merged with the schools in surrounding urban centers (e.g., Sanger, Pilot Point, and Valley View).

The rural center of Bloomfield in southeastern Cooke County was a gathering spot for area farmers by the mid-1880s. At its peak, about 1882, the town had a population of about 60 people, and boasted five stores plus a blacksmith shop, a school, cemetery, a post office, a cotton gin, and a flour and corn mill. "At one time Alex Gilliam had a picture gallery in the community" (Smith 1955). The Bloomfield community is the most cohesive community encountered during interviewing, probably because one of the primary social units, the Bloomfield Church, operated until the late 1940s. Although the community retained a sense of identity for many years, the actual life span of the town as a rural trade center was brief. Flour milling was discontinued by 1890, when commercially milled flour was available in nearby railroad towns; the cotton gin had been moved to Burns City, also in Cooke County, by 1902 (R. Jones 1981: personal communication).

Late nineteenth century and early twentieth century industry in the vicinity of the project area was dominated by cotton. Cotton gins were locally available, as well as cottonseed oil mills to process the seed once it had been removed (Odum 1980). Other industries in the project area included a sawmill owned by Binkley Simpson in Denton County (see Volume 2); and a stirrup factory in the Indian Creek community in Cooke County, which operated between about 1900 and 1908 (Sanders 1981; F. Jones 1981: personal communications). The Indian Creek community lies between the east and west forks of the project area, so detailed information about Indian Creek was not obtained through oral interviews. Another stirrup factory was located in Tioga (Estes 1977). A broom factory was located in the Mt. Pleasant area during the 1920s (Johns 1981: personal communication). The Cooke County liquor business was destroyed by the 1903 local option law (Collins 1981).

One of the first urban areas to develop close to the project area (in addition to Pilot Point), thus influencing development within the study area, was Tioga. Tioga is located in southwest Grayson County and was founded in 1881 when the Texas and Pacific Railroad was built. Mineral springs made the site a popular regional health resort by 1890. Tioga was incorporated in 1896, and had a population of more than 200 by 1900 (Webb 1952b). A smaller urban area, Burns City, was similarly developed in southeast Cooke County after a mineral well was discovered on the Burns' family farm.

In northern Denton County the railroad town of Sanger, on the Santa Fe line, was established. R.M. Ready's family were the first permanent settlers in 1887, but the town itself was not platted until 1887 (Webb 1952b; Sanger High School 1953). Another important railroad town, Valley View, was established on the Gulf, Colorado, and Santa Fe tracks in 1886 (Jones 1965). Of less importance to the project area, but a town that exhibited some influence, was Aubrey. Established in 1887 as a railroad town to the south of the project area, Aubrey was a minor urban center and was not incorporated until 1924. In the same vicinity as Burns City, Hemming was established in 1889 on land donated by C.C. Hemming (Webb 1952a). Hemming was the service center for the rural neighborhood originally settled by the Sullivan and Hammons families. As previously stated, Hemming was established on land donated by C.C. Hemming in 1889. Three churches (Baptist, Church of Christ, and Methodist), the store, and cotton gin were built

in 1894, and a post office established (Smith 1955). By 1900, a blacksmith shop and doctor's office were in operation (Webb 1952a). A Mr. Alexander owned the store in the 1890s. At its peak, Hemming had a population of 125, two stores, a gin, and school building, and three churches (Smith 1955). Hemming was a major social center until 1907, when a tornado destroyed the community (Hale 1981: personal communication). Several townspeople were killed, and the event is remembered well throughout the project area. The Hemming business district was not rebuilt, although another gin operated briefly there, and the Mountain Springs neighborhood was expanded to include Hemming's former population (G. Morrow 1981: personal communication). Mountain Springs, between the two forks of the project area, had a school and a store prior to 1900, as did Burns City (Hollingsworth 1981: personal communication). Both Mountain Springs and Burns City, as well as Mount Olive (which had only a school) were situated between the Elm Fork and the Isle du Bois, and Mountain Springs eventually absorbed the service functions of the smaller, less commercial rural village centers.

A small, short-lived community called Breedlove or Needmore existed in Cooke County, 1 to 2 mi east-northeast of the Hemming area. Breedlove had one of the earliest schools in the area, established in the 1890s. It was a one-room, one-teacher school with 40 to 50 children ca. 1906-1907. The community was probably contained within an area of less than a 2-mi radius. A Mr. Breedlove gave land for the eight-grade school, located next to a cotton gin that operated briefly in the 1890s. The community became associated with Hemming and Mountain Springs after 1930. People from the Breedlove area went to church in the Hemming area community because Breedlove had no church of its own (G. Morrow 1981: personal communication).

Other small neighborhoods in this area included Oak Hill, about 1.5 mi south of Mountain Springs, which had a school only. Walling (also known to early homesteaders as "Hideout" because it was deep in the "timbers") was located 2.5 mi east-northeast of Oak Hill, and contained a school and a church after 1900. The Mt. Pleasant Community, had a church and possibly a school; and Tipton Chapel, located 4 mi west of Tioga and 2 mi north of Oak Dale, was centered around the Tipton Methodist Church by 1910 (Morrow, B.F. Jones, N. Sanders 1981: personal communications). The Tipton Chapel area children went to school in the 1920s at Burton, Oak Dale, Lemmon (1 or 2 mi west of the Barron School), and Union Grove (location unknown) (N. Sanders 1981: personal communication). All of these schools were approximately within 5 mi of each other. Overlapping community boundaries seem to have been evident in the Tipton Chapel-Indian Springs area. A corn mill was operated briefly by a Mr. Steven 1 to 2 mi north of Tipton Chapel in the 1920s (C. Harpole 1981: personal communication).

One of the larger rural neighborhoods in the project area was Fairview, on the east side of the Elm Fork of the Trinity, about 2 mi south-southeast of Hemming. It centered around the Fairview school, which was located south of the community center on present FM 455. The school was a one-room school house that children attended through the ninth or tenth grade. Approximately 50 children attended school at Fairview in the early 1900s (B.F. Jones 1981: personal communication).

To the east of Fairview was Elm Grove, which had a school. Little information was obtained concerning Elm Grove, although the school still existed in 1920 (Sanders 1981: personal communication). Union Hill, about 3 or 4 mi west of Fairview, also centered around a schoolhouse that many children from the Fairview community attended (B.F. Jones 1981: personal communication). To what extent the Union Hill community was a separate entity is not known. The Fairview neighborhood was comparatively large (about a 6-mi radius), and it is possible that the Union Hill school was established for the Fairview community's overflow. The Union Hill school was an unusually large school

for the project area, having 3 rooms, 10 grades, 3 teachers, and over 100 students by 1920 (B.F. Jones 1981: personal communication). Because of the distances traveled by some students to the Union Hill School, many rode horses. The school was consolidated in 1934 along with many rural area schools (Harpole 1981: personal communication). While no cemetery was established in the Union Hill area, a Baptist Church conducted services once a month in the schoolhouse. The community could not afford a full-time pastor (Calhoun 1981: personal communication). Especially during summer revivals, several denominations held services in the same building. Union Hill School was abandoned upon consolidating in 1945 with Sanger. According to local oral informants, Union Hill residents still refer to Fairview people as "cross the creek people." The two areas rarely socialized with each other, especially after about 1930, nor did they attend each others' churches.

Only one significant rural supply center and its surrounding neighborhood is contained entirely within the project area boundaries, the site of Cosner/Vaughantown (also see Volume 2). A few settlers were in the Vaughantown area by the 1850s. The original tract was a 320-ac parcel known in 1857 as the Cosner Survey. C.W. Vaughan bought the land in 1904, by which time several families had settled in the vicinity and steady migration promised a prosperous future. The Cosner store was strategically located halfway between Pilot Point and Sanger, and by the 1920s the establishment housed a post office, hardware, grocery, and dry goods store. Aubrey Vaughan and his father G. W. Vaughan operated the store after 1904, when J.A. Cosner sold his holdings. By 1925, Cosner had a blacksmith shop, two homes, and the Bethel Missionary Baptist Church, in addition to the store. The area served as a social center for the local population with up to 40 people at a time going into Cosner to visit and shop. The store operated on credit, and business warranted it being open 6 days a week during the 1920s. Business in the rural village declined with the advent of automobiles and the subsequent access to more and varied stores and services. The town of Cosner/Vaughantown was all but abandoned by 1930. The church remained in use until 1945 when it was disbanded (G.W. Vaughan 1981: personal communication).

The community of Lone Oak, 2.3 mi south of Valley View, was established prior to 1900 and was centered around a church and a school (Hale 1981: personal communication). A small settlement, the community had a one-room school house in 1907 that taught children through the eleventh grade (Hollingsworth 1981: personal communication). No more than 15 to 20 children attended the school, which may reflect low density settlement in this locale and/or the close proximity of other community schools (Calhoun 1981: personal communication). Unfortunately, oral tradition is weak in much of the project area because of the community development patterns discussed earlier, and informants with detailed information on communities prior to 1900 are very rare. Because of these circumstances, explicit nineteenth century information was for the most part unobtainable.

In addition to subsistence crop production, cotton, corn, and grains were raised as cash crops by the 1890s. Cash grain crops included maize, sorghum, wheat, and oats. Those farthest from urban centers used local gins, with the Hemming gin being the most widely used. Farmers on the west side of the project area went to Valley View (which had three gins), Sanger, or occasionally Gainesville, depending on which was closest or who was offering the highest prices. Farmers on the east side of the project area used gins in Pilot Point, Tioga, or Collinsville, also depending on the closest market, current prices, or personal preference. Few farmers in the project area used local gins. Wheat was taken to mills in the nearest urban centers to be processed, and a portion of the flour was taken out and put into storage at the mill for the families to "draw on" during the winter (Johns 1981: personal communication).

Livestock and fowl were important products in the area beginning in the 1860s and 1870s. Cattle became important during the great Missouri cattle drives of the 1870s (Collins 1981). After 1900, prairie lands were used more for grazing than for crop production. Livestock included beef and dairy cows, sheep, goats, chickens, geese, ducks, and turkeys. Turkeys were particularly prominent in the western half of the project area. Turkeys were used for a cash crop after 1920 and sold to a dressing plant in Sanger or to a lawyer from Valley View (Johns 1981: personal communication). Eggs and milk were sold year-round throughout the project area. Milk was sold to a cheese factory in the German settlement of Muenster after 1930 (B.F. Jones 1981: personal communication). Regular milk routes were established in the late 1930s. Sheep were raised primarily around the Lone Oak area after 1930, and sold for cash (Calhoun 1981: personal communication). Meat for home consumption was canned (tinned) (especially beef and veal) and pork and beef were smoked, salt cured, or sugar cured. At least one large ham was generally reserved for late cotton harvest (Hale 1981: personal communication).

A large vegetable garden was still essential to area farmers during the Competition period despite emerging rural and urban supply centers. Gardens included potatoes, turnips, greens, okra, tomatoes, peas, beans, berries, grapes, corn, melons, and squash. Sweet potatoes, raised primarily in sandy soil, and turnips were housed in potato banks built like miniature storm cellars. In addition to vegetables, peaches, figs, cherries, and apples were grown for food (G. Morrow, B.F. Jones 1981: personal communications). Planned orchards were most numerous around the Fairview community. Fruits and vegetables were rarely sold (B.F. Jones 1981: personal communication). Any surplus was generally given away to those in need or to family and friends. Fruits were generally dried, although some were made into preserves, and stored in burlap bags or flour sacks (Harpole 1981: personal communication). Glass canning was the most popular method of food preservation, although some metal canning was used during the 1920s (Hollingsworth 1981: personal communication). Home demonstration agents introduced metal canning to Home Demonstration Clubs, who held weekly or biweekly meetings in local schools.

In most areas, weeds in a vegetable garden were unthought of, as were weeds in the swept-sand yards (Johns 1981: personal communication). In one case, near the Hemming community, two brooms a year were purchased from the project area broom factory for the express purpose of sweeping the yard (Johns 1981: personal communication). How extensive the practice of yard sweeping (a Lowland South custom) was is not known, but it is in evidence in the Valley View Mountain/Springs vicinity in the survey area. Sweeping was the province of the women as a part of their general housekeeping, as was food preservation.

With the exception of a gradual increase in cash cropping after 1880, no major change in agricultural cropping patterns was exhibited by the project area farmers until after 1900, when cotton cultivation as a cash crop became predominant. From its introduction in the 1860s to the 1920s cotton production expanded rapidly. In Denton County one bale was produced in 1860, 674 bales in 1870, and 11,668 bales in 1880 (Odum 1980). By 1908, there were cotton gins in every part of Denton County, one of the largest being at Pilot Point (Walter 1969). In Cooke County, cotton acreage went from 36,091 ac in 1890 to 108,372 ac by 1925 (Collins 1981).

The boll weevil was a problem from the beginning of widespread cotton cultivation. The insect thrived in the shade and in the damp earth near the river bottoms (B.F. Jones 1981: personal communication). Therefore, those farms located nearest water sources probably suffered the most initially. One particularly bad year for boll weevil damage

area-wide was 1919. Insects remained a problem off and on throughout the Competition period.

As elsewhere in the South, poor land cultivation practices in the early 1900s in north Texas almost destroyed the soil for agricultural purposes (Walter 1969). A Bureau of Business Research Report for 1947 states that some crop land in Grayson County should never have been put into cultivation (Bureau of Business Research Grayson 1949). Because of some of these poor land practices and an overdependence upon cotton as a one-crop economy, widespread soil deficiencies developed. By 1910, experts began promoting conservation in Denton County (Walter 1969) and about 1922, Cooke County followed suit (Collins 1981). A terracing school was held in Denton County in 1920 (Cowling 1936). In continuing efforts to diversify, dairying was developed in Denton County in 1920 (Walter 1969). However, survey information indicates that dairying, on a small scale, was prevalent before 1920 (S. Hester, B. Barker 1981: personal communications). Two other products suggested for diversification were broom corn and peanuts. While the number of acres in Denton County farmland increased in the 1920s, the number of farms decreased. Many farmers could not handle their financial losses caused by the plummeting prices for cotton, combined with the economic depression of the 1920s. In the 1930s, land speculation by wealthier local investors and the farmers' inability to make mortgage payments caused many farmers to lose their land. Small scale farmers began abandoning their farms for economic reasons, while neighboring farmers purchased the floundering farms and increased their holdings (Walter 1969). Fairview was especially hard hit by the Depression (B.F. Jones 1981: personal communication).

Very few blacks lived in the project area, and so blacks were not a significant part of the surplus labor force. Two groups of black families were clustered around an area just west of Valley View and located in spatially distinct neighborhoods inside the Pilot Point city limits (N. Sanders, Johns 1981: personal communications). Most area blacks found social and spiritual outlets as well as educational opportunities at Gainesville. From the early 1890 to well into the 1930s, black women were often employed as domestics when pregnancy or illness occurred in white families. Few black men, however, worked as hired hands in the project area. It is doubtful that many, if any, blacks owned land during this period. Two local communities still do not allow blacks in their city today.

By 1920, about 50% of the farms in Denton, Grayson, and Cooke counties were tenant operated. Tenant farmers worked as few as 2 ac, but owners had up to 100 ac. Because of the high number of absentee landlords in the area, many farms were "cash rented," that is, land was rented by the acre for a flat fee. Cash renting was preferable to sharecropping because sharecroppers and tenant farmers had no choice in what crops they could plant. After 1920, despite falling cotton prices, landowners required cotton to be the principle cash crop of renters. This stipulation added to soil depletion, already a problem in the area because of the loss of topsoil in the floodplain and the vital mineral depletion caused by continuous cotton cultivation. Grayson County had switched to wheat as the major cash crop by 1925, with over 30,000 ac of wheat in production that year. By the late 1920s, farmers in all three counties were using soil conservation measures; crop rotation, terracing, and cultivation of cover crops such as peanuts and broom corn were becoming common (Walter 1969).

By the time automobiles were commonplace--after 1928 in most neighborhoods--cotton was beginning to wane as a primary crop. Mechanized farming became more common in the post-World War I years. Tractors were common in the area by 1935 (Harpole 1981: personal communication). Quite often, tractor companies would offer double the

market value for horses or mules as a trade-in on a new tractor (B.F. Jones 1981: personal communication). Draft animals soon became virtually unavailable.

The 1920s and 1930s saw the development of the cooperative utilities to serve the rural communities in Cooke and Denton counties. Rural electrification brought not only lights and machinery to help run the farms, but radio to decrease the isolation. The dairy business in Denton County was developed with the help of the Dairy Farmers Cooperative Society, while cotton farmers were aided by the Farmers Cooperative Gin Co. (Cox 1938).

The three-county area reached its peak in population and number of active farmsteads and the area began to decline during the Competition phase. Some outmigration was experienced during World War I as a result of the discovery of oil in the project area and elsewhere in Texas. Test wells for oil were drilled 6 mi east of Aubrey as early as 1909, but few jobs were offered to local residents. Oil companies drilled wells near Pilot Point, Aubrey, Denton, and Sanger between 1906 and 1932. Most were not successful or only modestly so, with the exception of a few near Pilot Point (Walter 1969).

Some farmers did work in the oil fields, most of them temporarily, when the Jacobs oil field was discovered in the northeastern Cross Timbers between Pilot Point and Gainesville (Johns 1981: personal communication). The Pilot Point Petroleum Products refinery was built in Pilot Point ca. 1932 to process crude oil from the Jacobs Field, producing gasoline, diesel, kerosene, and road oil. The field is still open, but the refinery closed in the 1940s (Webb 1952b).

No significant increase in population occurred during this phase, although Denton and Grayson counties did gain modestly. Cooke County lost population between 1910 and 1920. This is partially explained by the fact that an entire regiment of men was formed from Cooke County for World War I (Calhoun 1981: personal communication).

Agribusiness and the Rise of Ranching, 1935-Present

About 1935, cash crops were still being planted, although dairy and beef cows were increasingly important as sources of income. Most cotton raised after 1936 was planted on the Blackland Prairies, where farmers had learned how to preserve the topsoil by planting grasses and legumes (F. Jones 1981: personal communication). In the Cross Timbers region, the transformation to cattle raising, sheep raising, and pasture land had already begun. Extensive cultivation of grain and hay was increasingly popular. The year 1950 marked the last significant cotton planting in the area. Wheat production between 1925 and 1955 in Grayson County showed little change; 32,200 ac of wheat were cultivated in 1924, increasing to 34,200 ac in 1953-1954 (Collins 1981). Clearly, many farmers had made the transition to cattle production.

With increased cattle production, farm size necessarily increased. "Hot milk" was sold between 1930 and 1950 by many farmers throughout the area. Fresh milk was put into buckets, placed in a tank of cold water, covered with a wet blanket, and cooled. A buyer from Valley View or Pilot Point would pick up the milk by 9 A.M. and transport it to a cheese factory in Muenster (Johns 1981: personal communication).

Little change in methods of preserving food occurred until the late 1940s, when electricity was installed in the area. This was in sharp contrast to the surrounding counties. The Fairview and Hemming communities received electrical lines from the Rural Electric Association out of Denton by 1940. Phones were in use in this area by

1918. The area just to the east and south of Valley View received electricity in 1942, but did not have phones until the 1950s. In the Union Hill area, electricity was installed beginning in 1942, but World War II interrupted installation and the process was not finished until 1946. Phones were available in the 1930s. The Tioga area communities did not get phones until the 1960s, but electricity was available by 1948.

After 1935, transportation was simpler if not more comfortable. Road improvements were not undertaken to any great degree until the late 1930s. "Chain gangs," state and county prisoners with ball and chain, were used for road work. The prisoners camped out at night in tents with their chains anchored to prevent escape (N. Sanders 1981: personal communication). Bad roads did not keep rural residents from going to town at least once a week. If the roads were too bad, because of flooding, most families would hitch up the mules or horses and use a wagon (N. Sanders 1981: personal communication).

With the coming of World War II, wheat prices increased, and population in the project area decreased. More land was put into pasture, both to improve the soil condition and to enable its use as grazing land. Jobs outside of agriculture were available during World War II, providing many men and women the opportunity to leave farm life in the project area for better economic opportunities elsewhere (Johns 1981: personal communication). For example, an army camp located north of Gainesville created jobs for local residents. The Works Progress Administration (WPA) programs also provided local residents with government jobs in the late 1930s. By the late 1940s, many people were leaving the farms because their small farms were no longer economically viable. As agriculture became more specialized, cattle and grain increased in importance.

Very few fowl, other than chickens, were raised after 1947. The boll weevil struck the area with a vengeance in the late 1940s, ensuring the demise of cotton as a cash crop (Morrow 1981: personal communication). In Grayson County, cotton was planted on 159,000 ac in 1924, but only 380 ac were in cultivation in 1953 (Collins 1981). Some of the last cotton planted in the project area was in 1941, near Valley View. At that time, only one nearby gin was in operation, located at Lois, Texas, in Denton County (Johns 1981: personal communication).

Through the 1960s, eggs, chickens, butter, and melons were sold at roadside stands. Vegetables were rarely sold except for occasional melons. Essentially, except for a few remaining subsistence farmers, the small farmer was out of business by the late 1950s.

Community disintegration, where community identification had developed, began in the late 1930s when Union Hill was consolidated with seven community schools. This consolidation included most of the schools in the project area. In 1945, further consolidation occurred, merging Union Hill with urban schools, and effectively taking control of community affairs away from local neighborhoods. In Cooke County alone, there were 38 school districts in 1945, decreased from 89 common school districts in 1916-1917 (O'Brien 1944). Without the focal point of the school, many communities ceased to exist as distinct entities. Fairview, Mountain Springs, and Hemming are the only rural areas today that are perceived as spatially distinct neighborhoods.

Evolution of the Built Landscape in the Project Area

Historical research in the survey phase, when combined with survey information, yields some interesting perspectives on landscape development in the historic periods. These perspectives will be further illuminated by work in the testing and mitigation phases, as generalized information is supplemented by specific case histories.

Much is known about the pattern of historic settlement in the early twentieth century in this area (using historic maps), and the evolution of that settlement (from the secondary literature). Therefore, knowledge of historic archaeological site locations does not significantly enhance settlement data, but rather amplifies known trends. This is not to say that historic archaeological data does not provide insights into historical growth and development (as may be seen in Volume 2). However, these insights may be drawn primarily from more detailed mitigation and testing data. Obviously, it is necessary to locate historic archaeological sites and to assess their research potential in the survey phase, but no detailed discussion of the survey data is included here. An examination of the extant built landscape is more rewarding in the survey phase, and therefore the bulk of discussion in this report centers on architecture, especially house types.

Temporal shifts in architecture in the project area were discussed briefly earlier in this chapter as a part of site typology. In light of the information collected about the history of the project, the temporal sequence specific to this area can be delineated as follows. Much of the building prior to 1870 is presumed to have been log. Few houses are extant in the area that have been tentatively dated to the pre-Competition period. The oldest house on the Sadau site (41DN118) was built with square nails, and is reported to have been constructed of lumber hauled by oxen from Dallas (see Volume 2). If this is true, it may be one of the oldest frame houses in the area.

Sawmills were operating in the immediate vicinity of the project area by the 1870s, and the arrival of the railroads between 1870 and 1886 would have made finished lumber, turned columns, and decorative moldings readily available, thus facilitating the period of transition from folk to vernacular design beginning about 1875 (Figure 7-21). Methods of construction were changing as well, with building becoming a trade as well as a general skill. By 1880, at least one master builder was operating in the area, noted in the Census as a "house carpenter." Also in 1880, one rural sawmill was operating in the project-area Census districts, run by Charles Oldham. The shift to early planbook designs is difficult to deal with in light of the paucity of information about the exact construction dates of buildings surveyed. If buildings known to have been constructed between 1890 and 1910 could be treated as a separate group, it is likely that this group would contain the majority of ell and tee plan dwellings in the project area. We do know, however, that by 1920 the shift to vernacular building as a predominant mode had been accomplished. Most houses built during this period (Figure 7-22) were clapboarded bungalows or small homes built by retired farmers.

From the information collected thus far, it would appear that the economic base of farmers prior to World War II was not very diversified, and that this was reflected in the rural landscape. A few farmers, such as Jack Sullivan, had pre-twentieth century southern two-story I-houses, a type traditionally indicating status (Kniffen 1965). These were decorated in the high-style mode of the time. An even fewer number of farmers had academically-styled houses in the latter historical periods. One example of such isolated occurrences is the Moderne house at 41DN83.

Logically, the farmsteads of tenants, cash renters, and farm owners should have contained buildings of differing sizes and functions, buildings that varied between economic classes in each period and that varied between periods. Likewise, they should have been arranged in differing configurations. Two considerations prevent us, however, from testing these hypotheses in the survey phase. First, the prevalence of adaptive reuse of the materials from early buildings that have lost their function has caused the destruction of many outbuildings both recently and historically. Just as importantly, those that remain have often been shifted or moved from site to site.

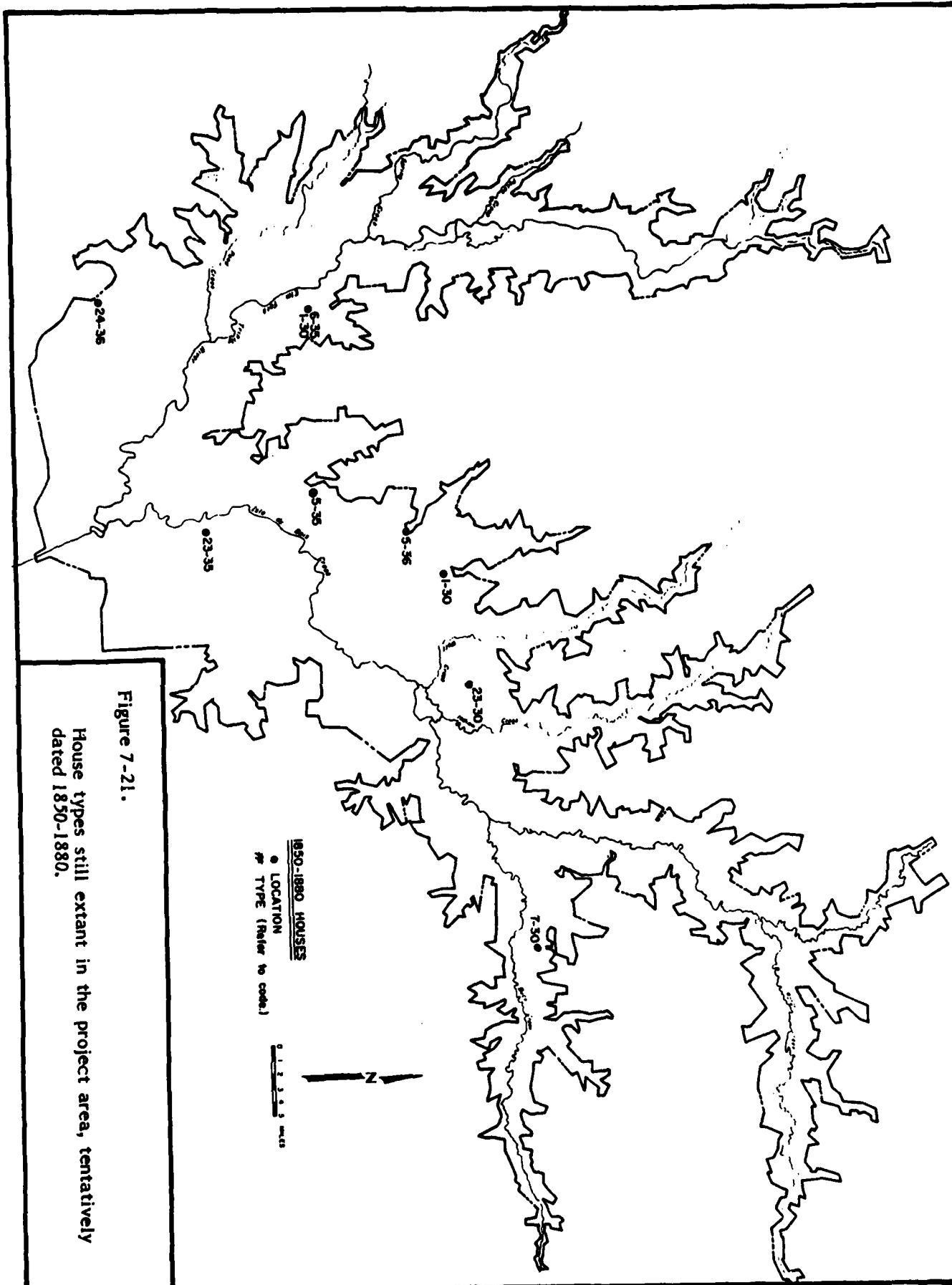


Figure 7-21.

House types still extant in the project area, tentatively dated 1850-1880.

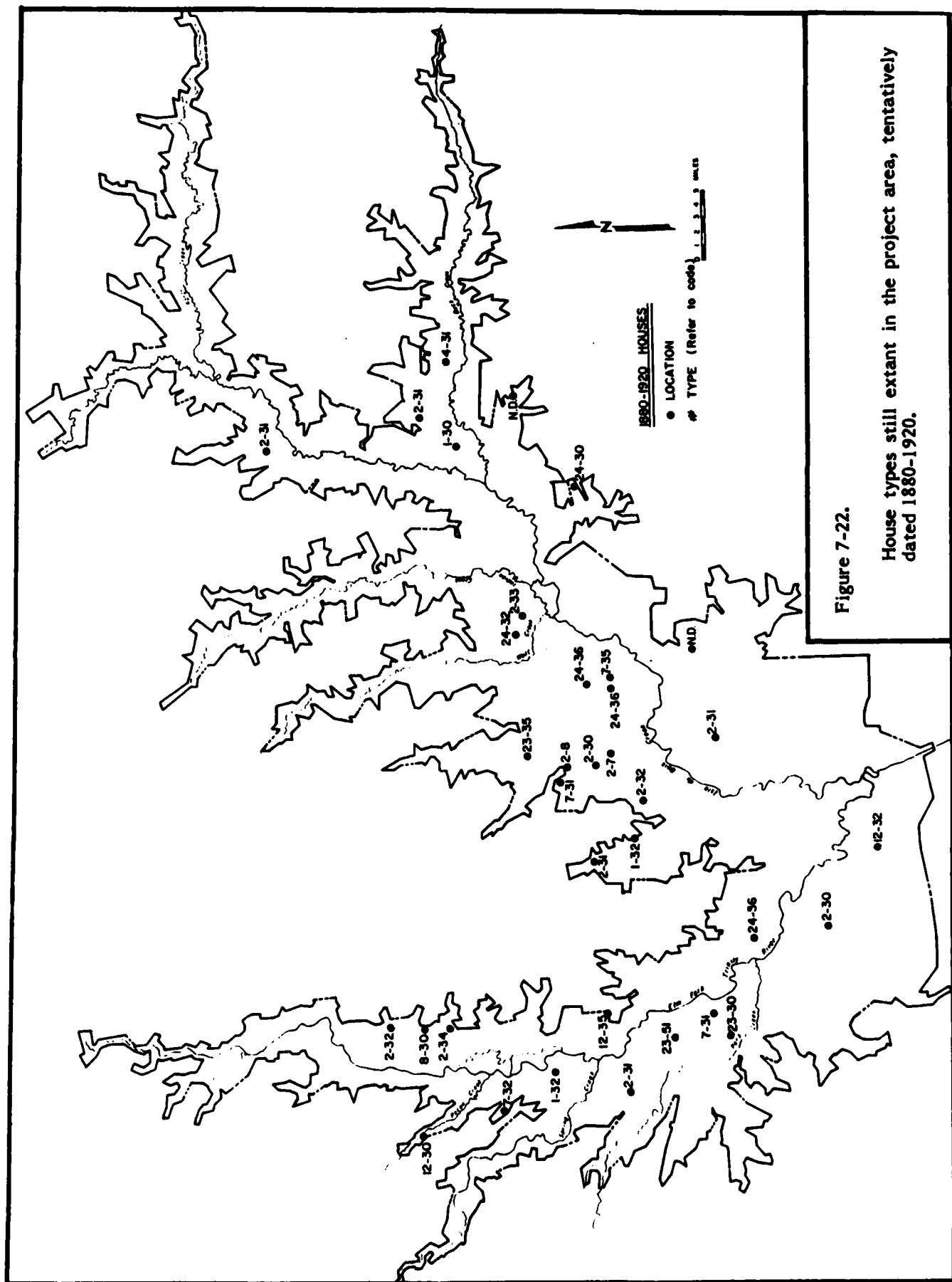


Figure 7-22.

House types still extant in the project area, tentatively dated 1880-1920.

Second, the lack of site-specific historical information on each site prevents the grouping of farmsteads into land-ownership categories.

Big barns were undoubtedly more prevalent than their remains in the present landscape would indicate, but most barns in the area prior to the introduction of commercial dairying would seem to have been modest multi-purpose structures. These multi-purpose buildings are characterized by a second-story hay loft, with a granary and stabling area for horses or mules below, and usually have shed additions for machinery storage and/or milking. Smaller barns, presumed to have been owned by tenants or farmers with very small acreages, are scaled-down versions following this general pattern.

Other outbuildings resemble common single-purpose southern outbuildings (Hart 1976), placed seemingly at random around the farmstead following the contours of the land, and added as needed. Closer examination, however, reveals the generalized patterning noted by Weaver and Doster (n.d.) and Wilson (n.d.). It is expected that when these data bases become available for study, systematic comparisons of change in farmstead patterning through time and space will be possible. One element conspicuously missing in the survey building inventory are buildings that can be positively identified as smokehouses. Either few of these buildings survive, or their form was historically not as distinctive as might be expected (Glassie 1964).

When the spatial distribution of houses in each period is examined, the pattern of landscape evolution is further clarified. Houses built between 1850 and 1880 during the Initial Settlement and Spread of Settlement periods are still extant in each of the core areas of project area rural neighborhoods. By 1920, Competition-era settlement and population expansion in these neighborhoods had filled in the older-settled areas and expanded farther north and west, with the densest new construction occurring in the Bloomfield/Tipton Chapel area. Between 1920 and 1940, the activity around Vaughantown is reflected in new construction from that period, with only scattered isolated cases of new construction elsewhere (Figure 7-23).

In summary, building practices in the project area through time can be characterized as very culturally conservative, both in terms of form and style and in terms of the materials and techniques used in their construction. As new ideas were adopted from the popular culture in each era, their expressions in the landscape of this area tended to be simple and functional. Increasingly depressed economic conditions in the Cross Timbers and the relative spatial isolation of the area's population from urban centers may be cited as principle reasons for the evolution of the built landscape in a functional manner in this section of north-central Texas.

VIII. RECOMMENDATIONS

Introduction

The overall purpose of the archaeological survey at Lake Ray Roberts in north-central Texas was to locate and evaluate the cultural resources to be affected by the lake and park construction. This information is needed to ensure that proper mitigation of significant resources is completed prior to their loss. The following discussion presents recommendations for all of the recorded cultural resources contained within the entire study area including prehistoric, historic, and standing structure sites. An explicit statement is then offered about the eligibility of certain of the cultural resources regarding nomination to the National Register of Historic Places. Many sites are excluded from any further consideration, and a recommendation of "no further work" is offered for these resources. It is suggested that the remaining sites require additional investigation to further evaluate their potential for National Register eligibility.

Before proceeding with this discussion, it should be pointed out that the Lake Ray Roberts survey did not involve extensive site testing as defined in the Airlie House report (McGimsey and Davis 1977). Some preliminary testing was done in the basic construction area. This work has been described in a separate report (Volume 2 of the Cultural Resources Investigations at Lake Ray Roberts), but the results of testing have been used in making recommendations about mitigation of sites located in the construction area. Consequently, the reader must be aware that this information was available in making specific recommendations and that comparable data are not available for the rest of the lake area. This latter circumstance explains why a large number of sites are recommended for further investigation before a complete evaluation can be prepared.

Prehistoric Site Recommendations

A total of 117 archaeological sites with prehistoric occupations was recorded within the Lake Ray Roberts survey area (Table 8-1 and Appendix 5, Table A5-1). Because of the low density of surface and/or subsurface artifacts (or clusters), because past land modification activities had essentially destroyed any integrity of site deposits, and in consideration of potential ability to resolve problems in the prehistory of the project area, no further work is recommended for 41 of these 117 sites.

Of the remaining 76 sites, mitigation is recommended for eight sites based on the results of a testing program conducted in the southern part of the proposed lake area (See Volume 2 of the Cultural Resources Investigations at Lake Ray Roberts), while a program of systematic testing is recommended for 64 prehistoric sites. In addition, mitigation also is recommended for three sites, based upon the existence of a high research potential. One of these, 41DN17, is known to have produced features, burials, faunal remains, and a wide variety of valuable data on the Late Neo-American period along the lower Elm Fork. The other two, 41DN207 and 41DN208, are both lithic procurement sites with high surface artifact densities, and artifacts diagnostic of the Late Archaic (41DN208) and the Late Neo-American (41DN207) periods. While they are almost certainly surface sites only, they do provide an excellent opportunity to examine similarities and differences in primary lithic reduction technology between the two periods.

Recommendations for mitigation and testing have been based on considerations of two factors. The first of these was an evaluation, usually made on the basis of the surface conditions of the site, of the likelihood for the presence of preserved subsurface

Table 8-1.
Prehistoric and historic sites within the Lake Ray Roberts area

Site	Type	Site	Type	Site	Type
41DN76	Historic	41DN137	Hist./Stg. Str.	41DN199	Prehistoric
41DN77	Historic	41DN138	Hist./Stg. Str.	41DN200	Historic
41DN78	Historic	41DN139	Hist./Stg. Str.	41DN201	Pre./Hist.
41DN79	Pre./Hist.	41DN140	Hist./Stg. Str.	41DN202	Historic
41DN80	Prehistoric	41DN141	Stg. Str.	41DN17	Pre./Stg.Str.
41DN81	Pre./Hist.	41DN142	Hist./Stg. Str.	41DN204	Stg. Str.
41DN82	Prehistoric	41DN143	Stg. Str.	41DN205	Historic
41DN83	Hist./Stg. Str.	41DN144	Stg. Str.	41DN206	Pre./Stg.Str.
41DN84	Pre./Stg. Str.	41DN145	Stg. Str.	41DN207	Prehistoric
41DN85	Prehistoric	41DN146	Stg. Str.	41DN208	Prehistoric
41DN86	Historic	41DN147	Historic	41DN209	Historic
41DN87	Pre./Hist./ Stg. Str.	41DN148	Prehistoric	41DN210	Prehistoric
41DN88	Historic	41DN149	Prehistoric	41DN211	Prehistoric
41DN89	Prehistoric	41DN150	Pre./Hist.	41DN212	Historic
41DN90	Historic	41DN151	Stg. Str.	41DN213	Historic
41DN91	Historic	41DN152	Prehistoric	41DN214	Historic
41DN92	Historic	41DN153	Historic	41DN215	Historic
41DN93	Historic	41DN154	Historic	41DN216	Stg. Str.
41DN94	Historic	41DN155	Historic	41DN217	Prehistoric
41DN95	Historic	41DN156	Pre./Hist.	41DN218	Historic
41DN96	Pre./Hist.	41DN157	Hist./Stg. Str.	41DN219	Prehistoric
41DN97	Historic	41DN158	Historic	41DN220	Historic
41DN98	Prehistoric	41DN159	Prehistoric	41DN221	Historic
41DN99	Prehistoric	41DN160	Prehistoric	41DN222	Historic
41DN100	Historic	41DN161	Prehistoric	41DN223	Stg. Str.
41DN101	Prehistoric	41DN162	Prehistoric	41DN224	Stg. Str.
41DN102	Prehistoric	41DN163	Prehistoric	41DN225	Hist./Stg. Str.
41DN103	Prehistoric	41DN164	Hist./Stg.Str.	41DN226	Stg. Str.
41DN104	Historic	41DN165	Hist./Stg.Str.	41DN227	Stg. Str.
41DN105	Historic	41DN166	Historic	41DN228	Historic
41DN106	Stg. Str.	41DN167	Hist./Stg.Str.	41DN229	Stg. Str.
41DN107	Stg. Str.	41DN168	Historic	41DN230	Historic
41DN108	Historic	41DN169	Pre./Hist.	41DN231	Historic
41DN109	Historic	41DN170	Historic	41DN232	Historic
41DN110	Historic	41DN171	Hist./Stg.Str.	41DN233	Historic
41DN111	Historic	41DN172	Hist./Stg.Str.	41DN234	Historic
41DN112	Pre./Hist.	41DN173	Prehistoric	41CO10	Hist./Stg.Str.
41DN113	Historic	41DN174	Hist./Stg.Str.	41CO11	Prehistoric
41DN114	Prehistoric	41DN175	Prehistoric	41CO12	Historic
41DN115	Prehistoric	41DN176	Hist./Stg.Str.	41CO13	Historic
41DN116	Historic	41DN177	Historic	41CO14	Prehistoric
41DN117	Historic	41DN178	Prehistoric	41CO15	Historic
41DN118	Hist./Stg.Str.	41DN179	Historic	41CO16	Historic
41DN119	Historic	41DN180	Prehistoric	41CO17	Prehistoric
41DN120	Historic	41DN181	Historic	41CO18	Pre./Hist.
41DN121	Stg. Str.	41DN182	Historic	41CO19	Prehistoric
41DN122	Stg. Str.	41DN183	Historic	41CO20	Prehistoric
41DN123	Hist./Stg.Str.	41DN184	Historic	41CO21	Historic
41DN124	Hist./Stg.Str.	41DN185	Historic	41CO22	Historic
41DN125	Stg. Str.	41DN186	Historic	41CO23	Prehistoric
41DN126	Historic	41DN187	Prehistoric	41CO24	Prehistoric
41DN127	Stg. Str.	41DN188	Prehistoric	41CO25	Historic
41DN128	Hist./Stg.Str.	41DN189	Historic	41CO26	Prehistoric
41DN129	Hist./Stg.Str.	41DN190	Historic	41CO27	Historic
41DN130	Hist./Stg. Str.	41DN191	Hist./Stg.Str.	41CO28	Prehistoric
41DN131	Hist./Stg. Str.	41DN192	Historic	41CO29	Prehistoric
41DN132	Hist./Stg. Str.	41DN193	Hist./Stg.Str.	41CO30	Historic
41DN133	Hist./Stg. Str.	41DN194	Historic	41CO31	Historic
41DN134	Hist./Stg. Str.	41DN195	Historic	41CO32	Historic
41DN135	Historic	41DN196	Stg. Str.	41CO33	Historic
41DN136	Hist./Stg. Str.	41DN197	Prehistoric	41CO34	Historic
		41DN198	Stg. Str.	41CO35	Prehistoric

Table 8-1. (cont.)

Site	Type	Site	Type	Site	Type
41CO36	Historic	41CO100	Prehistoric	41GS63	Pre./Stg. Str.
41CO37	Historic	41CO101	Historic	41GS64	Prehistoric
41CO38	Historic	41CO102	Historic	41GS65	Pre./Hist.
41CO39	Historic	41CO103	Historic	41GS66	Historic
41CO40	Historic	41CO104	Historic	41GS67	Prehistoric
41CO41	Historic	41CO105	Stg. Str.	41GS68	Pre./Hist.
41CO42	Historic	41CO106	Prehistoric	41GS69	Pre./Hist.
41CO43	Historic	41CO107	Historic	41GS70	Historic
41CO44	Historic	41CO108	Hist./Stg. Str.	41GS71	Pre./Hist.
41CO45	Prehistoric	41CO109	Historic	41GS72	Pre./Hist.
41CO46	Historic	41CO110	Historic	41GS73	Prehistoric
41CO47	Pre./Hist.	41CO111	Stg. Str.	41GS74	Historic
41CO48	Prehistoric	41CO112	Historic	41GS75	Stg. Str.
41CO49	Pre./Hist.	41CO113	Historic	41GS76	Historic
41CO50	Prehistoric	41CO114	Historic	41GS77	Historic
41CO51	Historic	41CO115	Historic	41GS78	Historic
41CO52	Prehistoric	41CO116	Historic	41GS79	Stg. Str.
41CO53	Prehistoric	41CO117	Historic	41GS80	Historic
41CO54	Prehistoric	41CO118	Historic	41GS81	Prehistoric
41CO55	Pre./Hist.	41CO119	Historic	41GS82	Historic
41CO56	Prehistoric	41CO120	Historic	41GS83	Historic
41CO57	Prehistoric	41CO121	Historic	41GS84	Historic
41CO58	Historic	41CO122	Historic	41GS85	Prehistoric
41CO59	Historic	41CO123	Pre./Hist.	41GS86	Historic
41CO60	Prehistoric	41CO124	Prehistoric	41GS87	Historic
41CO61	Historic	41CO125	Prehistoric	41GS88	Prehistoric
41CO62	Historic	41CO126	Pre./Hist.	41GS89	Historic
41CO63	Historic	41CO127	Historic	41GS90	Prehistoric
41CO64	Historic	41CO128	Historic	41GS91	Historic
41CO65	Historic	41CO129	Pre./Hist.	41GS92	Prehistoric
41CO66	Historic	41CO130	Historic	41GS93	Pre./Hist.
41CO67	Prehistoric	41CO131	Historic	41GS94	Prehistoric
41CO68	Historic	41CO132	Historic	41GS95	Historic
41CO69	Historic	41CO133	Historic	41GS96	Prehistoric
41CO70	Prehistoric	41CO134	Prehistoric	41GS97	Prehistoric
41CO71	Prehistoric	41CO135	Historic	41GS98	Historic
41CO72	Prehistoric	41CO136	Stg. Str.	41GS99	Historic
41CO73	Pre./Hist.	41CO137	Historic	41GS100	Historic
41CO74	Prehistoric	41CO138	Historic	41GS101	Historic
41CO75	Historic	41CO139	Prehistoric	41GS102	Prehistoric
41CO76	Prehistoric	41GS39	Historic	41GS103	Historic
41CO77	Historic	41GS40	Stg. Str.	41GS104	Historic
41CO78	Historic	41GS41	Historic		
41CO79	Prehistoric	41GS42	Stg. Str.		
41CO80	Historic	41GS43	Stg. Str.		
41CO81	Historic	41GS44	Historic		
41CO82	Historic	41GS45	Stg. Str.		
41CO83	Historic	41GS46	Stg. Str.		
41CO84	Historic	41GS47	Historic		
41CO85	Prehistoric	41GS48	Prehistoric		
41CO86	Historic	41GS49	Stg. Str.		
41CO87	Historic	41GS50	Historic		
41CO88	Historic	41GS51	Stg. Str.		
41CO89	Prehistoric	41GS52	Historic		
41CO90	Prehistoric	41GS53	Historic		
41CO91	Prehistoric	41GS54	Historic		
41CO92	Historic	41GS55	Historic		
41CO93	Prehistoric	41GS56	Stg. Str.		
41CO94	Prehistoric	41GS57	Stg. Str.		
41CO95	Prehistoric	41GS58	Historic		
41CO96	Historic	41GS59	Historic		
41CO97	Prehistoric	41GS60	Pre./Hist.		
41CO98	Historic	41GS61	Historic		
41CO99	Prehistoric	41GS62	Prehistoric		

materials at the site. This evaluation was based on consideration of such factors as the degree of historic disturbance such as plowing that has occurred on the site, the amount and nature of erosion that has occurred (taking into account the potential size of the site), and the similarity of that site to others which have been tested and which may or may not have been deemed significant. Thus, for example, an eroded lithic procurement site located on an upper terrace may safely be recommended as requiring no further work, in consideration that the few lithic workshops in similar situations tested elsewhere proved to have no depth and small artifact samples. On the other hand, a marginally eroded base camp that occupies a large lower terrace, most of which is undisturbed, may be reasonably recommended as requiring systematic testing, in consideration of the results of testing at other such sites elsewhere, where a long history of occupation along with trash pits and burials has been revealed.

The second set of factors taken into account in making recommendations for further testing and mitigation, has been an evaluation of the potential contribution which any particular site could make to a better understanding of the prehistory of the Lake Ray Roberts area, if testing should show that site to have a reasonable degree of archaeological preservation. This judgement often was made independently of the evaluation of a site's present condition, and was based more on the role that site may have played within the regional settlement pattern at any point in time. This has resulted in several instances of an undated base camp of questionable preservation being considered as having a high research potential and being recommended for testing, because it is a base camp and can greatly clarify the prehistory of the area, if the testing reveals preserved and buried deposits. Appendix 5, Table A5-1, presents a list of all prehistoric sites recorded by the survey, along with the estimation of their potential research significance, their archaeological potential, and the recommendations made for further work. As noted above, a site's "Potential Research Significance" as shown on Table 8-1 is based upon an evaluation of the role that site can, or could, play in the resolution of research questions regarding the prehistoric development of the Lake Ray Roberts area. The "Archaeological Potential" is based on a number of factors including estimated period of occupation, hypothesized function, density of surface artifacts, potential for depth, and potential for preservation. This column explicitly discusses these factors, instead of simply giving a one-word evaluation, such as "good" or "bad." It is hoped that this will make the process of evaluating the archaeological potential of these sites easier to follow.

Of the 64 prehistoric sites recommended for systematic testing, 26 are believed to be single-component occupations, based upon surface evidence, and collectively span the full period of prehistoric occupation (Table 8-2). Nine of the 37 remaining sites recommended for testing appear to be multiple-component sites, with a minimum of 21 components (Table 8-3). The remaining 29 sites recommended for testing are undated, but represent almost the complete spectrum of site functions (Table 8-4).

Of the 11 sites recommended for further investigation, 5 are single component sites, largely Late Archaic in date (Table 8-5); the remaining 6 sites are multiple-component occupations, representing a minimum of 16 components (Table 8-6).

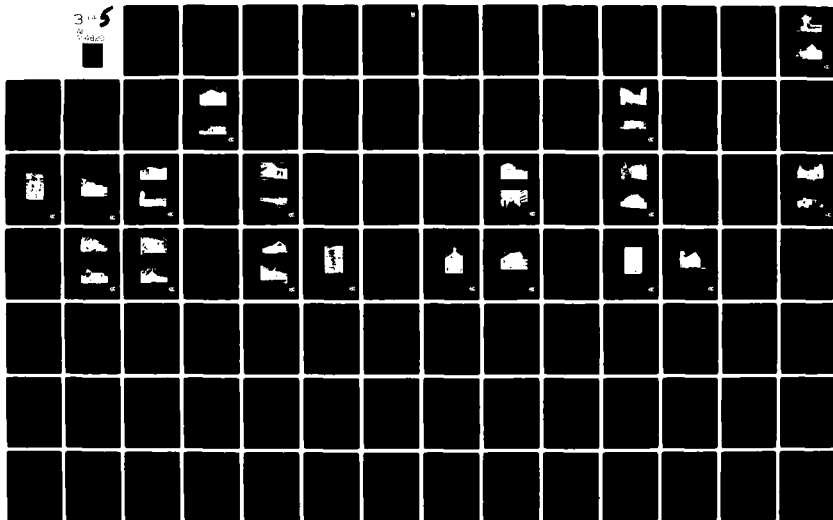
Historic Site Recommendations

A total of 243 cultural resource sites with historic archaeological remains, or potential archaeological remains, have been recorded within the survey area of Lake Ray Roberts (Table 8-1 and Appendix 5, Table A5-2). This total includes both archaeological and standing structure sites with the exception of isolated outbuildings. Of these, 188 sites have been recommended as requiring no further archaeological work because of the

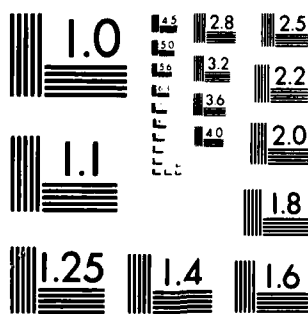
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Table 8-2.
Single-component prehistoric sites
recommended for testing

Date	Macroband base camp	Microband seasonal camp	Hunting camp	Hunting station	Lithic Procurement Site
Middle Archaic	2	1	1		
Late Archaic	3	4	3	2	1
Early Neo-American	2	1	2		
Late Neo-American	2	2			

Total number of sites = 26.

Table 8-3.
Number of components present at multiple-component prehistoric sites
recommended for testing

Date	Macroband base camp	Microband seasonal camp	Hunting camp	Hunting station
Middle Archaic				3
Late Archaic	1	1	1	3
Early Neo-American	1	3	2	
Late Neo-American	1	2	2	1

Total number of sites = 9.

Table 8-4.
Undated prehistoric site types recommended for testing

Site Type	Frequency
Macroband Base Camp	12
Microband Seasonal Camp	8
Hunting Camp	2
Hunting Station	3
Lithic Procurement Site	<u>4</u>
Total	29

Table 8-5.
Single-component prehistoric sites recommended for investigation

Date	Macroband base camp	Hunting camp	Lithic procurement site
Late Archaic	2	1	1
Late Neo-American			1

Total number of sites = 5.

Table 8-6.
**Number of components present at multi-component prehistoric sites
recommended for mitigation**

Date	Macroband base camp	Microband seasonal camp
Middle Archaic	2	
Late Archaic	4	
Early Neo-American	3	1
Late Neo-American	5	1

Total number of sites = 6.

condition of the site deposits, the low density of surface artifacts, or a low research potential. Of the remaining 55 sites, a sample of approximately 20% of the total, mitigation is recommended for 9 sites, and systematic archaeological testing combined with initial site-specific research in preparation for more detailed mitigation research is recommended for 46 sites. The mitigation recommendations have been based upon the results of a two-phase testing program initially conducted in the primary construction impact area (see Volume 2 of the Cultural Resource Investigations at Lake Ray Roberts). The sites outside this primary impact area are recommended for testing only at this point in time.

As was the case for the prehistoric sites, recommendations for further testing and mitigation of the historic archaeological sites depends upon: (1) an estimate of the potential role that the site could play in clarifying the research problems relating to the historic occupation of the Lake Ray Roberts area, based upon the type of site and its location, if the site displays suitable archaeological preservation; and (2) the current condition of the site, and an evaluation of its likelihood of containing such preserved archaeological deposits and its ability to provide the kind of data relevant to the research concerns. Thus, as for the prehistoric sites, the historic sites are evaluated on the basis of their potential role in a regional research design and on the basis of their potential for archaeological preservation; and, as was true above, the evaluations are made independently of one another.

As a result of initial historical research in the survey phase, several hypotheses have been developed that may be tested using historic archaeological data in conjunction with site-specific historical research. These research questions include the following concerns.

First, is there a difference between material culture artifacts used during each of the historic periods? To provide information on this aspect of historical development, the tentative historical periods assigned to the sites were used to select sample sites from each period.

Second, are there differences in artifact patterns or temporal occupancy of the sites based on natural features such as elevation or proximity to running water? Thus, does distance from a contemporaneous urban center or rural supply center make a difference in artifact patterns? Sample sites with good archaeological potential were selected in a roughly uniform distribution to provide information about these concerns. Because sites judged to have good archaeological potential do not occur in all parts of the project area, some sites judged to have fair potential were included in this sample.

Third, is there a difference in artifact patterns in the Cross Timbers and Prairie regions? A concentration of adjacent sites with good potential from these regions were selected to explore this question. An attempt was made to select sites wherever possible that would have relevance to more than one of these areas of investigation.

Appendix 5, Table A5-2, presents the recommendations for testing and mitigation of the historic archaeological sites recorded at Lake Ray Roberts. This table follows the same format used to present prehistoric site recommendations in Appendix 5, Table A5-1, and includes an estimation of the "Potential Research Significance" and the "Archaeological Potential" of each site. The summary of archaeological potential is the last word used in the column in Table A5-2.

Historic Standing Structures Recommendations

The goal of cultural resources management studies may be stated generally as the preservation and interpretation of material culture artifacts that are judged to be important to our own and future generations. This has been accomplished to date largely as a result of legal mandates requiring the significance of cultural sites to be assessed before their destruction. The success of both the mandates and the process by which significance is assessed are ongoing topics of discussion and dissension in the scientific community (for instance, see McGimsey and Davis 1977). Because of the evolving definition(s) of what constitutes significance and what measures should be taken if an historic site is deemed significant, confusion can ensue for the client and the investigator both in the process of designing an investigation and in evaluating the final report of that investigation. Therefore, this section will first address the question of "How can the significance of an historic site be determined?"

Cultural/historical/archaeological significance depends in large part on which segment of our pluralistic society is determining significance and for what purposes. Local historians would place more value on an early homestead site, for instance, than would new residents to a community, who have no longstanding affiliation with their new locality. Likewise, the significance of a site for an academically-trained researcher is likely to be framed in terms of its "research potential," that information about a site that is likely to contribute to answering questions about scientific or humanitarian concerns (i.e., national history, cultural systems, regional economic development). In particular, there would seem to be a marked difference in current assessments of significance by local residents, professionals in the humanities, and professionals in the social sciences.

Therefore, wherever possible, the value systems of all these groups have been taken into consideration in assessing the cultural and historical value of individual sites. The aesthetic qualities of a site have been considered, as has the research value for advancing knowledge in the behavioral sciences, and the value of the site to local residents or communities as an actual or symbolic place.

The problem of assigning significance is most critical when dealing with historic sites. In the first place, at Lake Ray Roberts there are far more historic than prehistoric sites because of the density of historic settlement, and because historic settlement has left more cultural remains. Second, although more is known in a general sense about historic as opposed to prehistoric times, methods for documenting and analyzing historical archaeological and architectural information are less formalized--because our country is relatively new, and the interior of our country has only recently been colonized by whites, historical research has not been given much attention. With the new local history and genealogical grass-roots movements, however, support and enthusiasm has even been generated within the academic community.

The significance of historical sites may be determined along three continuums: cultural significance, i.e., the relative aesthetic value of a site's cultural remains; historical significance (the most common criterion used), the importance of a site as the place at which an important personage lived, or the place at which an historic event took place; and research significance, discussed above.

Given these concerns, the logical first step in evaluating sites is to develop explicit criteria by which a site might be judged significant. The criteria developed for use in making recommendations for standing structures in this project area are presented as Items 1 through 8 in Figure 8-1. These criteria represent the National Register of

Historic Places guidelines for significance as they were applied to project area sites, in light of the peculiar circumstances of historical settlement and development in the project area.

In a region where little is known about the past historical cultural landscape, the National Register criteria of eligibility are difficult to apply, particularly the criteria concerning "typicality" or "representativeness." No systematic inventories of "ordinary" buildings are available from which to judge the significance of buildings still standing in a project area, especially in project areas whose boundaries are arbitrarily assigned (according to other needs) and are therefore neither geographically nor culturally inclusive. One of the drawbacks of the cultural resource management legislation as it is currently drafted is that no examination of the surrounding area is required; therefore, no data are usually available to judge the relative rarity or typicality of a building or other material culture remains.

As discussed in Chapter VII, a statewide survey of log buildings in Texas has been compiled (Jordan 1978) and was expected to be most useful for comparison with the Lake Ray Roberts information. Since his research was the first to encompass such an extensive area, and covered a number of topics, his data base is for our purposes too simplified. Such important architectural variables as precise size, fenestration and door placement patterns, exact location, and materials and construction techniques of subsequent additions, cannot always be extracted from the research files, which were archived at North Texas State University. Many of his conclusions are based in part on his own extensive experience with the resources, and his conversations with Texas natives, and are therefore somewhat subjective. Therefore, more detailed and systematically collected information can be expected to substantially add to current knowledge of change through time and of regional variation in folk building practices. In addition, site-specific research on all log building sites, together with information from the architectural and archaeological record, can be expected to contribute to the reconstruction of everyday life between 1820 and 1930. Since pre-twentieth century record groups are poor in quality and quantity for the project area, information on a few selected sites will be less helpful than cumulative information from groups of several sites whose structures or artifact assemblages are similar.

The criteria used for this study assume for purposes of evaluation that if a type is the only one of its kind in the area it is unusual and therefore significant. Likewise, if there are multiple examples of a type in the area, the best example of the type is deemed significant. It is likely that this assumption will lead to a minimal number of sites recommended as significant that are in fact of lesser importance within the larger region. However, since the landscape in question will be completely destroyed or heavily impacted by the planned construction, by the time data confirming this could or will be collected, the sites will probably already have been mitigated. Funding of additional work in areas surrounding the project area, even if it were possible, would likely be as expensive or more so than the inclusion in the mitigation plan of these "questionable" sites.

Testing and Mitigating Historic Standing Structures Sites

Unlike archaeological sites in an area to be disturbed, standing structures can be "banked" in several ways for future reference and research by scholars. The most obvious, and least expensive, way to bank a significant structure is through documentation, so that information about the materials, construction techniques, style, plan, associated historical archaeology, and environmental and social context are available after the building is destroyed or removed from its primary context. This

method is most appropriate where structures are in poor condition, or where for some other reason restoration or salvage is not possible or desirable, or where informants are of advanced age.

The second way a significant structure can be banked is to document the structure in its environs, then move it away from the endangered area and stabilize it, meanwhile assembling historical information about the physical and social history of the structure and its environs that is not already available in public archives. The third method of saving information about a structure is an extension of the second: find a purchaser or donor who will restore and/or convert the structure to another use. This, of course, involves a substantial investment in research, reconstruction, and maintenance. The structure in question also must be of obvious significance either to an individual, a community, or a region.

Since several facets of mitigation are possible for significant structures, we attempt in the remainder of this section to be specific about the level of documentation recommended for standing structures, rather than simply categorizing the sites as potentially significant, or not potentially significant.

Determinations of significance for folk and vernacular architecture, unlike high-style architecture, depend largely on the region. The significance of a folk or vernacular structure depends on its location, the structures surrounding it on the farm complex (in the case of a rural site), its degree of representativeness or uniqueness in the local area or larger region, its condition, and the possibility of obtaining oral or documentary information about the history of the structure.

Dates for most of the extant late nineteenth and early twentieth century dwellings in the project area, or at least approximate dates, would not be difficult to obtain through further interviews with residents of the project area. Such an effort would be best accomplished as directed site-specific research rather than trying to incorporate it into further general interviewing or detailed site-specific historical research of properties deemed significant. If dates were obtained for most dwellings, much more detailed analysis of the historic architectural data collected would be possible, enabling a substantial contribution to the literature interpreting the landscape of north-central Texas.

The emphasis on oral history, as well as on secondary sources, in compiling the background history has produced an unusually detailed historical overview of the project area (Chapter III). It is therefore much easier to identify those structures of outstanding local or regional significance. This still leaves, however, a second echelon of potentially significant structures, such as sites that could be significant if further research confirms the tentative assigned age, or sites that will be judged significant if they are the best example of a particular style in the larger north-central Texas region, or sites where further research reveals that all the outbuildings in a complex date from the same period. These questions about certain sites arise naturally from the need to establish a context for a folk or vernacular structure to demonstrate and interpret its importance as a symbol of community or regional architectural, agricultural, or cultural development. Because this type of site is difficult to deal with in terms of cultural resource planning, determinations of this nature have been kept to a minimum. When there is a question about the potential significance of a structure, we have indicated the nature of the research required before a recommendation of potential significance for the site can be made.

The problem of potentially significant sites can be in large part resolved by additional oral history research in the project area. In the survey phase of the project, informants were interviewed about settlement in the project area, agricultural and economic development of the area, the formation, stabilization, and decline of rural neighborhoods in the project area, and the areas of origin and cultural affiliation of the earliest population. These interviews provided very generalized material from which to write the historical development section of this report. A limited effort was made to identify early industrial sites and to gauge the amount and nature of early industrial activity in the area, particularly as it affected the evolution of the landscape. Since interviewers were in the community for only a short time, many potential informants who were located and screened were not interviewed, and many more potential informants were not located. Of the potential informants, several were of advanced age and may not be able to provide pre-twentieth century information if they are not interviewed soon.

We feel that because of the success of the oral history segment of the survey, and the high quality of the information collected, that site-specific interviewing in the testing and mitigation phases would be equally productive. Therefore, it is recommended that as a part of both testing and mitigation, additional general interviewing be conducted with an explicit emphasis on landscape evolution and other aspects of material culture in order to interpret the historic sites in the study area, and that site-specific interview information about potentially significant structures and sites be collected. Testing recommendations are outlined in Figure 8-1 for standing structure sites.

Four kinds of mitigation strategies are recommended individually or in combination in the site-by-site discussion that follows: measured drawings, measured plans, photographic documentation, and site-specific historical research. These recommendations are summarized in Table 8-7. "Measured drawings" is used here to mean architectural drawings executed in accordance with Historic American Buildings Survey (HABS) standards and procedures (McKee 1970). A full set of HABS drawings includes at least a site plan, elevations of at least the front, rear, and side facades of the major structure, elevations or perspective drawings of the historic outbuildings on the site, and measured plans for the main structure. "Measured plans" is used here to mean floor plans of the major structures and a site plan drawn to scale from field notes, with distances measured in both feet and inches and metric units. "Photographic documentation" means duplicate photographs using color slides and black and white 35 mm negatives on medium or fine-grained film and processed according to archival standards. "Site-specific historical research" includes the archival and oral history research necessary to reconstruct the evolution of the farmstead through time, dating the buildings, and determining what structures were present during each historic period; determining who lived there and when, and who built the buildings; collecting folklife information about daily life on the site from people familiar with the site during the late nineteenth and early twentieth century; and collecting physical descriptions of the buildings and information on their alterations and additions. Archival research includes both a secondary literature search for references to the site or those persons connected with it, and a search of primary records such as Population and Agricultural Censuses and deed, tax, and probate records.

In some cases, analysis of survey data is inadequate to make a recommendation about a site's significance. Since field recording was conducted at a minimal level, and field crew members did not have interior access to most of the buildings, for some sites the survey data were lacking, and informed statements about condition, extent of alteration, and even plan could not be made. Therefore, as a result of initial analysis of the survey data, sites were divided into three groups: those sites that showed no

Table 8-7.

Historic standing structure sites recommended for mitigation

Site Number	Measured Drawings	Measured Plans	Photographic Documentation	Site-specific Historic Research
41DN83	X		X	X
41DN87	X		X	X
41DN106		X	X	X
41DN107		X	X	X
41DN118		X	X	X
41DN143		X	X	X
41DN146	X		X	X
41DN157	X		X	X
41DN165		X	X	X
41DN167			X	X
41DN167			X	X
41DN172			X	X
41DN191	X		X	X
41DN196	X		X	X
41DN198	X		X	X
41DN223		X	X	X
41DN224	X		X	X
41DN226		X	X	X
41CO21			X	X
41CO33			X	X
41CO36	X		X	X
41CO38	X		X	X
41CO42			X	X
41CO51			X	X
41CO83		X	X	X
41CO103			X	X
41CO105		X	X	X
41CO110		X	X	X
41CO111	X		X	X
41CO112			X	X
41CO118		X	X	X
41CO120		X	X	X
41CO121			X	X
41CO136	X		X	X
41GS75		X	X	X

potential for significance either architecturally, historically, or archaeologically; those sites recommended as significance on the basis of the criteria outlined in Figure 8-1; and sites needing further research and/or documentation before a recommendation could be made.

The purpose of architectural "testing" is roughly the same as that of archaeological testing: to learn more about the material culture remains present on the site, to learn more about the history of the site, and to determine the research potential of further detailed site investigation. Research potential can be expressed in several ways. Will investigation of the site yield information that would help to explain the historical development in the area or assist in reconstructing past historic landscapes? Will further investigation yield historical data that would help in interpreting the pattern of historical archaeological remains. Can documentary or oral history information be found that will aid in interpreting the physical remains? And finally, is there enough physical information about a site that may be recovered to justify extensive site-specific historical research?

The following sites have been identified as standing structures sites requiring further investigation before a recommendation of significance can be made.

41DN133

The three buildings on this site are a house, a store, and a third building for which there are no data presently available. The stone-faced house is basically rectangular in plan with an asphalt shingled gable roof that runs east-west. An extension and partial front porch with shed roofs are on the south side, while another extension with a partial back porch is attached to it is on the north side. The house has been abandoned and is in good condition.

The store is comprised of a main section of horizontal shiplap siding with a gable roof running east-west, a large board-and-batten addition with a shed roof on the north side, and a veranda which fully spans both the south and east sides of the main section. Although no longer used, the store is in good condition. It is just northeast of the house. The third building is north of both the house and the store.

There are several rock-faced houses in the project area and the immediate vicinity. Further research is necessary to determine how old these buildings were and how and why they gained popularity. No oral history accounts of the store were collected during historical research; it was identified as a grocery store by Mr. Hawk (1981: personal communication), who lives across the road; he said that it was in operation during the 1920s or 1930s. The role of the store in community activity and structure should be explored before a determination of significance is recommended for this site.

41DN138

The buildings on this site include a house, barn, three chicken coops, and a shed. The clapboard house is square in plan with a shed-roofed full front porch on the south and a full screened-in back porch with a shed roof on the north. An interior brick chimney is near the center of the west side. The main section of the house has an almost pyramidal hipped roof. Roofing material is wood shingles. The house is elevated approximately 3 ft to accommodate a basement. It is in good condition and is currently occupied.

The remaining buildings are all north of the house, with the barn and one of the chicken coops at the northern site boundary. No information about the construction, materials, and condition of the remaining buildings is available at this time.

The style of the house is that of a traditional southern folk house but the presence of a basement indicates that the house may be so recent as to be excluded under the 50-year guideline, or that it may have been moved to its present location. Further investigation is necessary to determine the date of the house, the form and style of the other buildings on the complex, and if the house is in its original location.

41DN151

This site consists of a house (Figure 8-2), two barns, a garage, a cellar, and a well. The white clapboard house is in excellent condition. It is an ell-shaped vernacular structure with a front elevation reminiscent of a Cumberland facade; it contains two doors with windows on either side, as well as a window in the center. The front porch runs the length of the south side with nine simple posts supporting the shed roof. The main gable roof runs east-west, with a red brick chimney on the west side. An intersecting gable roof is located on the northwest side. Two small shed roofs are set into the corner and are enclosed. The roofing material presently is asphalt shingles. Interior access to the building was not possible since the house is presently occupied.

The two barns on the site vary greatly. The first, constructed prior to 1900, is a large wooden structure of wide vertical board with a gambrel roof. Less than half of the original shingles are extant. It is located to the far north of the house and is deteriorating but in stable condition. The second, located northeast of the house, is a small dairy barn constructed in 1959; it is in excellent condition. The cellar (date unknown), located just west of the house, appears to be a typical modern concrete type. The well is situated between the house and the cellar.

Dates for the buildings were obtained from Grey and Janelle Shelton (1981: personal communication), who presently live on the site. The house is puzzling in that Cumberland houses are almost never built either assymmetrically or with a small room in the center. Further information is necessary to confirm the plan of the house and to determine, if possible, why this variation on a traditional plan was chosen. The site is otherwise an excellent example of the transition in agriculture from diversified farming to pasturing and dairying in the mid-twentieth century.

41DN174

This extensively developed site is comprised of a house, three barns, a stock shelter, two chicken coops, a garage, two sheds, a wooden water tank, a windmill with a recent shed, a well, a root cellar, and the foundation remains of an additional building.

The house is reported to be over 100 years old and has been sensitively altered and maintained. Further research will be required to verify the following plan evolution analysis. The original plan appears to have been a two-room story-and-a-half house with a central hall and a full front porch on the south. At a later date(s), six more rooms were added to the northeast corner of the original plan. A large stone exterior chimney is on the east side and a similar chimney has probably been removed from the west side. The main section of the house has a gable roof that runs east-west; there are two shed dormers set into the south side of the roof. The shed dormers are probably mid-twentieth century additions. The porch has a hipped roof and the additional rooms have gable roofs that run north-south. The roofing material is asphalt shingles. The



Figure 8-2. Site 41DN151. Vernacular Cumberland house with ell wing, south (front) and west elevations, looking northeast.



Figure 8-3. Site 41DN176. One-and-one-half-story Cumberland house with tee wing, south (front) and east elevations, looking northwest.



entire house has been refinished in yellow clapboard-style aluminum siding and is in excellent condition.

The main barn is northeast of the house. It is constructed of simple framing with wide vertical board and a corrugated metal hipped roof with gablet that runs north-south. A shed addition spans most of the north side. Its condition is fair. The second barn is north of the first barn. It is of wide vertical board with a gable roof running north-south. When recorded its destruction was in progress. The third barn is northwest of the other two barns. It also is constructed of wide vertical board. Its corrugated metal gable roof runs east-west. The condition of this building is fair.

The stock shelter is in the far northeast corner of the site. It is board-and-batten, with a corrugated metal gable roof that runs north-south. A buckboard sits nearby. The shelter is in good condition. Both chicken coops are northeast of the house. The smaller one is of vertical board and has been patched with various materials; the shed roof is of corrugated metal. It is in fair condition.

Also northeast of the house is a garage of board-and-batten with a shallow corrugated metal gable roof that runs north-south. The garage is in good condition. The larger shed is just northeast of the house. It appears to be fairly recent and is constructed of scrap material left over from the house finishing materials. The asphalt shingled-gable roof runs north-south. The second shed is east of the main barn. It is of board-and-batten with a corrugated metal gable roof that runs east-west. Both sheds are in fair to good condition.

A wooden water tank is located near the southwest corner of the main barn and appears to be in good condition. A modern all-metal windmill with a small corrugated metal shed is east of the house. The circular brick-lined well is near the northeast corner of the second barn. Located between the garage and the small chicken coop is the root cellar, which is now filled with trash. The foundation remains of a building (whose historic function is not known) are north of the second barn.

Although the site undoubtedly dates from at least the early part of the Competition period, it has undergone considerable alteration and may have lost its integrity. No dates for any of the outbuildings are known. Further investigation is required, therefore, to determine the extent of interior alteration of the main structure, date the outbuildings, and to determine if the site has local historical significance. Because of the number of extant outbuildings, further investigation also may reveal that this is a complete or near-complete early twentieth century complex.

41DN176

A house (Figure 8-3), barn, two large storage sheds, an outhouse, a water tower, and a storm cellar are located on this site. The house is a one-and-one-half story Cumberland plan with an addition to the north creating a tee plan. The front porch on the south and the side porch on the west of the addition are constructed of simple posts supporting shed roofs. The original chimney is located in the center of the building, with another chimney on the north end of the later wing. Finishing materials used on the house include clapboard siding and asbestos shingles on the roofs. Further discussion of the plan of the house is not possible without interior data, and interior access was not possible during the survey fieldwork. Presently, the site is abandoned, but the house is in good condition.

A large barn of vertical board with a catslide roof of corrugated metal is located northwest of the house. It is in deteriorating condition. The two storage sheds are north of the house with the outhouse between them. The east shed is constructed of corrugated metal over a wood frame, while the west shed is of horizontal board with a corrugated metal roof. All three structures are in fair condition. The round wooden water tower stands approximately 25 ft high and is about 8 ft in diameter. It also is in fair condition.

Further information about the plan, date, and the architectural evolution of the house is necessary before a recommendation about the eligibility of the site can be made. Survey information indicates that the house might have originally been a one-and-a-half story Cumberland plan with detached kitchen or a later addition, and the exterior floor plan indicates that the tee wing might originally have had a passage. No information is available to indicate which of the one-and-a-half-story Cumberland plan houses in the project area is the oldest, but this house may be in the best condition and therefore have greater research potential.

41DN193

The buildings on this site include a house, barn, stable, and an outbuilding. There also is a well and a root cellar on the site. It is difficult to distinguish the original plan from the additions to the house on the basis of survey data. As the evolution of the house is presently reconstructed, it is a tee plan with an addition spanning the north side of the main section, a side porch on the west of the extension, and an enclosed addition on the east side of the extension, making the overall plan rectangular with the exception of a small back entry-way added to the north end of the east side. The tee portion has intersecting gable roofs, the three additional sections are shed roofed, and the entryway has a small gable roof running east-west. The roof is finished in asphalt shingles. The house is finished in clapboard and horizontal shiplap wood siding. Any chimneys originally present have been removed. The house is presently occupied and in good to excellent condition.

The large barn, located northwest of the house, is of vertical board with a central alley and full loft. The gambrel roof is of wood shingles and has been covered in places with three-crimp metal roofing; the roof ridgelines and alley run east-west. A corral area extends off the south side. The barn is in good condition. The stables, east of the barn, are of horizontal board with a shed roof; their condition appears to be good. The outbuilding, a storage shed, is southwest of the barn. It also is of horizontal board with a shed roof and is in good condition.

The house on this site should be dated through both further physical investigation and historical research before a recommendation of significance is made for the site. If all its additions date from the historic period and no significant other alterations have been made, it may be eligible.

41CO10

A house, two barns, three outbuildings, and a well are located on this site. The house originated as a two-room plan with an interior west end brick chimney and a full front porch on the north side. The first addition, on the southwest of the original section, is unusual in that it created neither an ell plan or a symmetrical tee plan. The second addition was attached to the north half of the west wall of the first addition. A west end brick chimney is present in the second addition. The original section has a gable roof running east-west. The first addition has a hip roof that intersects the original

roof and the second addition has a hip roof which intersects the first hip roof. Roofing material consists of various types of asphalt shingles. The house itself has been covered with asphalt siding; further investigation is necessary to determine the original finishing materials. The house has been abandoned and is in fair condition.

The first barn, southwest of the house, is a large transverse crib barn constructed of vertical board. The hip with gable roof runs east-west and is finished with corrugated metal. It has been patched in places with miscellaneous boards, while other places have gone unrepaired. Its overall condition is fair. The second barn, now collapsed, is west of the first barn.

The three outbuildings are all south of the large barn. They are of various board construction with numerous repairs and patches. One has been partially demolished while the other two are in deteriorating condition. The well is just southwest of the house.

Further information about the plan, dates, materials, and architectural evolution of the house is necessary before a recommendation about the eligibility of this site can be made. Testing work recommended consists of measured plans, documentary photography, and site-specific research.

41CO32

The buildings on this site include a house (Figure 8-4), barn, and two outbuildings. The house is square in plan with a small addition to most of the west side. The main house has a hipped roof, while the addition has a shed roof. A hipped-roof full front porch is on the east side of the house. The house is finished with clapboard. A patch on the roof indicates that possibly the house had a central chimney. The house is no longer occupied and is in fair condition.

The board-and-batten barn, located north of the house, has a wood shingled gable roof that runs east-west. The west portion of the barn is starting to deteriorate. The smaller outbuilding is just southwest of the barn. It is short and is constructed of vertical board. The wood-shingled roof is patched with corrugated metal; the roof is shallow catslide in pitch. The building is in deteriorating condition.

Survey information is not sufficient to date the house nor to determine its plan. If further investigation reveals that the house has a traditional folk plan or is early twentieth century, the site may be eligible.

41CO81

A house and a small stock feeder are located on this site. The main portion of the two-room house is of clapboard with irregular fenestration. Without further information, the chimney location cannot be pinpointed. The gable roof is of corrugated metal and runs north-south. A narrow, board-and-batten addition is located on the west side of the building. Its shed roof also is corrugated metal. Repairs with various materials have been made on both sections. The house stands elevated above grade on stone piers and is settling towards the center. Overall, it is in fair condition and is currently in use for storing hay.

The feeder is located just south of the house. It is typical in construction, with vertical boards and pitched corrugated metal roof. Its condition is fair. The possible existence of a well and root cellar also were noted for this site.



Figure 8-4. Site 41CO32. South and east (front) elevations of house, looking northwest.



Figure 8-5. Site 41DN83. Moderne House, west (front) and south elevations, looking northeast.



The wide bargeboard under the eaves of this house indicates that the house may date from the 1880s to 1890s. Further research is necessary to determine when the house was built, and information about the interior is needed before a recommendation can be made for this site.

41CO82

This site has a house, a collapsed barn, a new livestock shelter, four new silos, and a concrete storm cellar. The house is a tee plan as it stands now; a room appears to have been removed from the north half of the west side. The intersecting gable roofs are of wood shingles with a brick chimney located at the point where the ridges meet. The house is finished with clapboard and the windows have been covered over with corrugated metal. The house has been abandoned and is in fair condition. The collapsed barn, located northeast of the house, was built of standard frame construction with a vertical board finish and a wood-shingled gable roof. The wide cornice board used as a finishing detail on the gable sheds, in combination with the wood shingles on the roof, indicate that the house may date from the 1880s to the 1890s. It is necessary to date the house more specifically before a recommendation about its architectural significance can be made.

41CO115

The only structure on this site is a vernacular board-and-batten house that has been converted to a barn. The house was originally ell-shaped in plan. The brick chimneys are located midway in each of the intersecting gable ridgelines. Extensive sheds and corrals have been added on all four sides. The entire structure is now covered with corrugated metal. It is currently in use and is apparently in good condition.

Occasionally old houses are not only converted to barns or storage buildings, but are stabilized by "dipping in tin." If the building is in good condition underneath, its research potential may be high. Further research is needed to determine the plan, age, and condition of the building.

41GS46

A house, barn, chicken coop, and two outbuildings are located on this site. The house has had several additions to reach its present ell plan. Originally, the house appears to have had two rooms with a central hall and a partial front porch on the west, with a gable roof intersecting the main gable roof. An interior chimney is located in the south wall of the north room. An addition to the east side of the house made the plan an asymmetrical tee with an intersecting gable roof. The south side was expanded with a shed room to create its present ell form. The roof is wood shingles covered with asphalt shingles. The original finishing materials of the house also have been covered with asphalt siding. The house is unoccupied and in good condition.

The barn, located east of the house, is constructed of vertical board; the main section has a loft, and a shorter, one-level section is attached to the south side. The shed and gable roofs are of corrugated metal and run east-west. A large corrugated metal addition with a shed roof spans the east side. The barn is in fair condition and is presently used for hay storage.

The chicken coop, located just northwest of the barn, is constructed of various kinds of boards and corrugated metal with a corrugated metal gable roof running east-west. It is in deteriorating condition. Both of the outbuildings are southeast of the house. They are similar in construction and condition to the chicken coop.

This site may be potentially eligible but information is lacking to make a definite recommendation. The old chimney and the presence of wooden shingles on the roof, combined with the apparent traditional three-room hall-and-parlor plan, indicate that it is a pre-twentieth century structure. Further investigation should include an examination of the original fabric beneath the asphalt siding, and an examination of the interior of the building to confirm that the central hall was originally closed in. Historical research should attempt to date the house and other buildings on the site.

41GS79

The only building on this site is a barn. A circular stone-lined well with more recent bricks above grade is located some distance to the northwest of the barn. The barn is a full two-stories, with early simple brace framing and fieldstone piers. It is faced with vertical boards, many of which are missing. The corrugated metal gable roof runs north-south. A single story pole shed spans the west side; the north and south sides are constructed of vertical board, while the long west side is not enclosed. A corral area extends from the east side of the shed. Despite the missing boards, the barn is in fair condition.

This barn is thought to be a tobacco barn because of its size, relative proportions, and framing. If its original function was indeed tobacco drying, it will be the only building of its type known to be extant in the north-central Texas region. Further information about the interior of the building and its original function, including extensive documentary photographs and site-specific research, will be necessary before recommendations of significance can be made.

Sites Recommended for Mitigation

In addition to cemeteries, two sub-types of standing structure sites require consideration as a group, as well as individually.

The research potential of sites which have or had log features is of special interest in the context of the research hypotheses. First, detailed analysis of these sites will enable informed statements about the maintenance of folk building types in the project area and the cultural antecedents of their builders (Newton and Pulliam-di Napoli 1977; Jordan 1980). Second, information collected will substantially add to knowledge about Texas log buildings, for which information an active archive already exists (the Texas Log Cabin Register maintained at North Texas State University). All sites with any evidence of log construction have been included in this group, although the work recommended on a site-by-site basis varies with the type and number of structures present, their relative age, and their condition.

The second group of buildings, one-and-a-half- and two-story houses, represent early settlement sites whose owners have become affluent enough to build a "big house" or who have otherwise attained status in the community. As discussed earlier, the one-and-a-half-story Cumberland tee house, while perhaps not a distinctive type, is an unusual compilation of plan features that deserves further investigation with regard to the circumstances surrounding its evolution in the study area. Therefore, even houses

whose condition would ordinarily preclude their consideration for eligibility because of local significance have been included because of their research potential.

The following sites have been identified as potentially significant sites recommended for further work in the mitigation phase. The further work recommended for each site is identified after each site is discussed. These recommendations have been summarized earlier in Table 8-7.

41DN83

The house, built in the 1930s, is a classic example of the Art Moderne style as it was often interpreted in vernacular housing (Figure 8-5). The soft, rounded corners, flat roof, plastic wall finish, wrap-around corner window, and the string course around the coping of the wall of this structure are all diagnostic characteristics of the style. The large square windows are steel framed, with 9 and 16 panes. The only alteration to the original structure has been the replacement of the front doorway with a rounded wooden door and a surround of straw-textured mortar. This alteration, combined with the present tan color of the house, suggests that the present owners wish to interpret the style of the house as that of a pseudo-southwestern pueblo style. The house is unusual in that it is banked, having a full two stories in the rear. Although unusual, it is an effective design solution to the problem of sufficient square footage while maintaining a sweeping feeling of movement through the use of strong horizontal lines as required by moderne style.

Two frame board and batten outbuildings were erected close to the house. One, to the north-northeast, is of indeterminate function, possibly a chicken coop/corral; the other is a small barn to the southeast.

This site is architecturally significant in several regards: its purity of style alone makes it eligible for the National Register of Historic Places, and is compounded in importance by its unusual location in a non-urban, isolated setting. In addition, the fact that the present house was built on the known site of a pre-Civil War log house makes it significant as an historic archaeological site. The site has been occupied continuously through time, and is currently in use as a residence.

Because the house on this site may have greater than local architectural significance (either on a state or regional level), measured drawings and archival HABS photographs, as well as site-specific historical research, is recommended for this site.

41DN87

In the early twentieth century (ca. 1925) at the height of its development, Cosner, Texas consisted of a rural store, blacksmith shop, two residences and several farm outbuildings, and the Bethel Missionary Baptist Church.

The Cosner store was established prior to 1900 by J. A. Cosner. It was a multi-purpose establishment, being at once the post office, hardware, grocery, and dry goods vendor for the Cosner community. The store carried a general line of groceries, including coffee, beans, bacon, corn meal, flour, and sugar in small quantities or in bulk; salted meat was available, and was kept in a screened cage to keep the flies off. Store furnishings included a coffee mill. The store was "made of sheet-iron" (Edward and Lydia Morrow, January 18, 1981: personal communication) and was roughly 30 x 60 ft, with a storage shed addition approximately 11 x 20 ft.

At least three blacksmiths are known to have operated the shop at Cosner: Herbert Dobbs, J.O. Strickland, and a man named Campbell. The shop was described as about 14 x 30 ft and busy enough sometimes to need two workers. The structure had double doors on the west, two doors on the east, and window openings on the north and south with drop shutters that were closed at night.

A large modern house was built in the mid-1920s when Aubrey Vaughan's family outgrew the house that had come with the property. Their old house was a typical board-and-batten four-room structure, one board thick, and papered with newspaper. When the wind was strong it would split the newspaper; as the wind varied in intensity through the night "the tune would change" (G. W. Vaughan, January 20, 1981: personal communication). One room served as kitchen/dining room, another as living room/bedroom and the other two as additional bedrooms.

At that time the dwelling house was at the north end of the Vaughtantown complex on the west side of the road, along with one or two chicken coops. The store also was on the west side of the road, with the church and the blacksmith shop on the east. The post office boxes were stacked by the blacksmith shop. There were barns on either side of the road.

The new house was built by carpenters Barlow Ebley, Riley Hicks, and Dobber Galbraith. These craftsmen worked out of Sanger and are reported to have built many houses in the area.

Unusually detailed information was obtained about the process by which the house was built (G. W. Vaughan, January 20, 1981: personal communication). There were two lumberyards in Sanger, one of which had a book with pictures and simple building plans. Initially, Vaughan was told that the plans were available regardless of purchase, but when materials from the other lumberyard proved to be \$500 cheaper for the house he picked, the proffered use of the plans was withdrawn. Mr. Galbraith stated that he had just built a house by that plan and thought he could replicate it without trouble. So he was made head carpenter at \$5.00 per day, the other carpenters making \$4.00 per day. In addition to the three carpenters, the Vaughan boys and their neighbors helped build the house. The neighbors were paid \$1 a day apiece. To obtain lumber and other materials, they first tore down four older houses and three barns. Windows and other necessary items were purchased at the lumberyard, and hauled to the site in the Vaughan's Model T pickup. The brick used in the house was manufactured in Denton by the Acme Brick Company. When finished, the house had nine rooms and a bath; it was undoubtedly the most progressive house in the neighborhood.

The barns on the site were sturdy wooden structures. They were used to store grain and hay, and to stable the horses, mules, and cows.

Bethel Missionary Baptist Church

In 1908, G.W. Vaughan donated 1.5 ac and \$100 for building materials to the Bethel Missionary Baptist Church, on the condition that if the congregation disbanded or attempted to sell the property to another denomination, the land would revert to Vaughan or his heirs (W.D., 115:224). The church was built about 150 yards northeast of the store. The church was a frame structure that held about 25 pews. It featured a bell over the foyer in a square bell tower. Although there was no cemetery associated with this church, an annual homecoming picnic was held where families would bring food with dinner being eaten outside.

This site is historically important as the focal point of the only neighborhood largely contained within the boundaries of the project area. As discussed above, the house is of interest because of its exceptionally good research potential. A detailed study of the design decisions in the selection of plan and materials for the house is expected to provide information not heretofore collected about the processes of vernacular building in the early twentieth century in rural Texas.

Measured drawings, HABS archival photographs, and site-specific research are recommended for this site.

41DN106

The only significant structure on this site is a small log and plank barn. The original section is a rough-hewn V-notched log crib. Vertically placed plank sections have been added to the north and south sides. Planks also have been added to the top of the crib to give it additional height. A steep gable peak is centered over the crib, with a more shallow-pitched roof to either side of the peak. Roofing material is corrugated metal. The barn is in good condition and is currently used for hay storage.

This site is recommended for mitigation as a part of the log culture complex in the project area. Its condition does not warrant the extensive documentation of measured drawings; measured plans, extensive photographic coverage, and site-specific historical research are recommended for this site.

41DN107

A log and plank barn is one of several standing structures on this site. The main section is of rough V-notched logs, many of which still have their bark. A vertical plank section has been added to the south and a pole shed addition on the north. A steep gable peak is centered over the log section and shallower-pitched shed roofs extend to the north and south. The roof is of corrugated metal. The barn is in good condition and is currently used for hay storage.

This building is recommended for mitigation as a part of the log culture complex in the project area. Its condition, while good, does not warrant the expense of measured drawings; the building may be viewed as having excellent research potential as a site which, when combined with other log structure sites in the area, will tell us about the diffusion of material culture traits into north-central Texas and the distribution of those material culture traits on the new landscape created by historic white settlement of the area.

41DN118

The Sadau farmstead is an excellent example of change through time on a single farmstead, and as such has been recommended for mitigation. The complex includes a modern house, a mobile home, an old Cumberland house with attached cellar, a dairy, a frame barn, the Prairie Chapel School, and several small frame outbuildings. The south part of the older house is of the double-pen, gable-roofed, southern style with front porch, but this central unit is dwarfed by a massive tee addition to the north, also one-story. In addition to the architectural value of the old house and the rest of the complex, 41DN118 is the present site of the Prairie Chapel School, 41DN126. Its historical research potential is high, since Sadau descendants still live on the site and farm in the area. Historically, the site is important as one of the few homes of people who participated in the economic life of the early twentieth-century Vaughtantown

neighborhoods but not in its religious life, since the Sadaus were both German and Seventh-day Adventists.

The Sadau farmstead is important as a complete complex, and because it has an early house and the Prairie Chapel School on the site. Measured plans, photographs, and site-specific research is recommended as additional work on this site.

41DN143

The structures on this site include a house, log barn, two log outbuildings, a possible smokehouse, and a modern pumphouse. The house is a planbook type and is probably too recent to qualify under the 50-year cutoff unless investigation as a part of historical research reveals otherwise.

The transverse log crib barn is southeast of the house. Shed extensions have been added to the south ends of each crib. The cribs themselves are of rough logs with both V- and saddle-notching. The corrugated metal gable roof runs east-west. The condition of the building is good to fair.

The first of the smaller log outbuildings is located at the southwesternmost corner of the site. It is a short structure of saddle-notched logs and a corrugated metal gable roof that runs north-south. The date "1943" has been scratched into the mortar chinking but further research is necessary to determine if it is the actual construction date. The overall condition of the building is good.

The second log outbuilding is just southwest of the house. Its steeply-pitched wood-shingled gable roof runs east-west. The building is partially collapsed. The remaining structure, possibly a smokehouse, is located southwest of the barn. It is constructed of board-and-batten and has a corrugated metal gable roof that runs north-south. It is in good condition. The modern concrete block pumphouse is north of the barn and may cover an older well. This site is presently occupied.

The site is recommended for mitigation as a part of the log culture complex in the project area. Site-specific research should determine the ages of the structures, which illustrate the continuity of the log building tradition in the project area. Measured plans, extensive documentary photographs, and site-specific research are recommended as further work needed on this site.

41DN146

A small log barn is the only significant standing structure on this site (Figure 8-6). The logs are hewn square, half-dovetail notched, closely fitted, and chinked with both a mortar-like substance and wood chips. A vertical-board shed addition runs the length of the west side. The gable ends of the log section are unusual in that the north gable is finished with wood shingles and the south is of tongue-and-groove boards. The catslide roof is of corrugated metal and the ridgeline runs north-south. The overall condition of the building is excellent.

The building is recommended for mitigation as a part of the log culture complex in the project area. The building may be one of the best preserved in the project area and as such is an excellent candidate for preservation. Measured drawings, HABS archival photography, and site-specific research are recommended for this site.



Figure 8-6. Site 41DN146. Log outbuildings, south and east elevations, looking northwest.

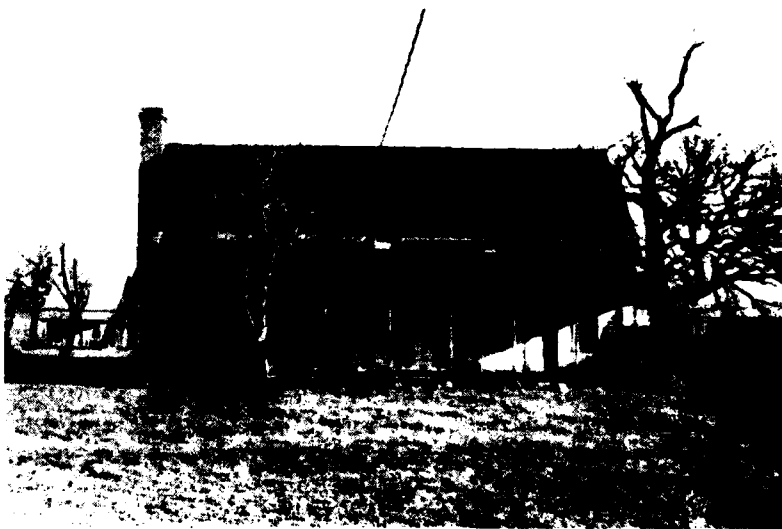
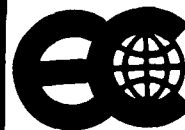


Figure 8-7. Site 41DN157. Hammons House, south (front) elevation, looking north.



Eight structures are situated on this site; they include a large main house (Figure 8-7), a smaller second house, a large barn, a small log barn, livestock shelter, garage, outhouse, and shed. As it stands now, the main house is a two-story ell in plan. The unusual front facade suggests that it has undergone considerable alteration from the original plan. There are five "front" doors: three in the center, and two symmetrically placed with windows on either side. The second floor has five windows; one is centered over the three doors, the other four are lined up with the four first-floor windows. The left and center door open into a large passage-way while the right door is the only access to the stairs. Judging from the structural evidence, it is likely that this house was originally a dogtrot that was later enclosed, with a second floor and back addition added still later.

The east end chimney has been removed, but the west end chimney is extant and is constructed of sandstone and brick. The back section is attached to the northwest corner of the main section. Porches include a full front porch on the south, a small porch on the west side of the back addition, and a porch that spans the east side of the back addition as well as the north side of the main section. The porches have shed roofs, while the two sections have intersecting gables. A variety of roofing material has been used on the building, including cedar shingles, asphalt shingles, and corrugated metal. The house is finished in clapboard. Its condition is excellent.

The second small house has been referred to as a "slave quarters" by an informant and is prototypical of Southern, pre-Civil War, single-room houses. According to Swick's interview with Eunice Gray, the house has been used as a tenant house (Swick 1974). The house is a single-room, board-and-batten structure with a steep-pitched, wood-shingled gable roof running east-west. A board-and-batten shed extension spans the length of the north side. An interior chimney is at the west end. A full front porch with a wood shingle shed roof spans the south side. It is in excellent condition.

The large barn, located southwest of the small house, is two stories high, with a steeply-pitched corrugated metal gable roof that runs north-south. It is finished in vertical board. The smaller barn has a log main section and vertical board shed additions on the north and south sides. The logs are hewn square and appear to be V-notched. Both the gable and shed roofs are of corrugated metal and run east-west. Both barns are in good to excellent condition. A livestock shelter is attached to the east side of the log barn.

The garage is of vertical board with a corrugated metal gable roof that runs north-south. It is located due west of the main house, is in good condition, and currently shelters a tractor. A vertical board shed with a corrugated metal gable roof running east-west is north of the main house. It is in fair condition. The outhouse is on the east side of the shed. It is constructed of horizontal board with a small, multi-patched gable roof. Its condition also is fair. A well-constructed fieldstone food/storm cellar is just west of the main house. This site is currently occupied and is an excellent example of an unusual and complete complex.

In addition to its architectural interest, the site is of local historical significance. Architecturally, the house is the best example in the project area of the traditional folk dogtrot type as it evolved into a building reflecting the owner's increased wealth and status in the community. The use of both a single door and French doors to enclose the opening is an unusual but innovative design solution. The site also is significant because of the unusual number and type of outbuildings still extant from the early historic periods.

Two authors previously have conducted research on the Hammons House: Alton Greene (1973) wrote a newspaper article for the Sanger Courier, and Diane Swick (1974) wrote a research paper on the same topic. According to Greene, George Hammons was born January 28, 1830, in Warren County, Tennessee. Although the Hammons pedigree goes back to the Civil War, George himself grew up in the Upland South culture region. George Hammons moved to Missouri to join relatives, and there married his cousin Mary "Mame" Sullivan. George and Mary Hammons had two children by the time they moved to Texas. George and his brother-in-law, Jack Sullivan, came to Texas ahead of his family and settled west of Pilot Point ca. 1853-1854. A year later, George sent for his wife and children. Greene (1973) wrote:

When the long awaited letter arrived from George in Texas, motions were set into being for the move to Texas. Her parents and brothers and their families decided to move and so with all their belongings, and animals, they made up a small caravan. . . . Mame felt she could not leave the few pieces of fine furniture she owned, plus the spinning wheel and her loom. She also, like many women before her, could not leave her feather mattress. So they were carefully packed in her covered wagon. . . . George Hammons set about clearing land and building a small log house for his family. The progress of establishing themselves was interrupted by the Civil War, and although George was not allowed to join the Army, he spent the Civil War years protecting the fledgling frontier community.

The "big house" was not built until the early 1870s. According to oral tradition, it was finished in 1872. The house was built from lumber hauled by oxcart from Jefferson, Texas, where a sawmill was then located (Swick 1974). "In the front room sat the grandfather clock and other fine pieces from Missouri. In a special room sat the spinning wheel and loom where Mame made all of the clothing; her 'spinning room' it was called where there was a small stool where a child sat holding the yarn. The old log house out back was the kitchen where Mame cooked from a fireplace. Relatives can still remember seeing the unique double oven she used here and other pots in constant use." The back room was added on in the 1880s or early 1890s as a kitchen, and a well was dug adjacent to the new kitchen. George Hammons died in 1896, "a prosperous man with a well-kept farmstead around him," and his widow continued to occupy the house until she died in 1928 (Greene 1973; and quoted in Swick 1974).

Because of its local historical significance, adaptive reuse and/or restoration is recommended for buildings on this site. Prior to such activity, the site should be documented with measured drawings, HABS archival photographs, and site-specific research.

41DN165

A house, two barns, shed, pumphouse, storm cellar, and three demolished outbuildings are located on this site. The house is approximately square in plan with an ell-shaped addition on part of the north and east sides. A full front porch is on the south side. The porch and addition have shed roofs, while the main section has a pyramidal roof. The roofing material used on the house is asphalt shingles. The house is finished in clapboard. There are two red brick chimneys that are unusually tall for such a house; further research is necessary to determine if the chimneys belong to an earlier house. The larger chimney is exterior, near the middle of the west facade, while the other chimney is an interior one in the middle of the north facade. The house is in good condition and is currently occupied.

The larger of the two barns is northwest of the house. The interior is of round, half-saddle-notched logs. Pole sheds span both the north and south sides. Both shed and gable roofs are of corrugated metal and run east-west. The second barn, located just west of the first barn, is constructed of vertical planks with a flat corrugated metal roof. Both barns are in good to fair condition. A corral system surrounds both barns.

Just north of the house is a small shed. It is of clapboard with a steep corrugated metal gable roof. Cresting accents its ridge line, which runs north-south. The shed is in good condition. Just west of the shed is the pumphouse. It is constructed of horizontal boards with a shallow, asphalt-shingled hipped roof. The condition of this outbuilding is fair.

The storm cellar is northeast of the house. North of the cellar is a demolished fieldstone structure; its function is presently unknown. The other two demolished structures are at the northernmost section of the site; their functions also are unknown.

This site is recommended for mitigation as a part of the log culture complex in the project area. In the course of site-specific research, it should be possible to determine whether the present house was built on the site of an older one, and if so, what the configuration of the original farmstead complex was. Measured plans, documentary photographs, and site-specific research are recommended for this site.

41DN167

A log cabin with additions (Figure 8-8) and a stone-lined well are located on this site. The cabin was originally a one-room structure of rough-hewn squared logs with full dovetail notching. Chinking between the logs includes wood chips. At some later date, a small second room was added to the east side; it runs the length of the original room and is less than half as wide. It was finished with clapboard siding and the logs were covered with the same clapboard. At a still later date, two more rooms were added to the south. These were finished with board-and-batten. Each of the two sections have catslide roofs that are near collapsed; very few of the original wood shingles are present. Overall, the house is in deteriorating condition, and has been abandoned for some time.

This site is recommended for mitigation as part of the log culture complex in the project area. Documentary photographs and site-specific research are recommended as mitigation work for this site.

41DN172

This site consists of a house, log barn (Figure 8-9), log crib (Figure 8-10), garage, shed, storm cellar, and windmill. The large house has been recently remodeled, at least on the exterior, with white siding and asbestos roof. The old, red brick chimney indicates, however, that the house is a great deal older than it appears. The house is presently occupied, and interior access was unavailable; therefore, further investigation is necessary to determine its exact evolution. The plan is that of a Tee house, with the main section running north-south with the extension to the west. The shed porches on the north and south sides of the Tee wing have been completely enclosed.

The log crib, southwest of the house, is of round, double-'V'-notched logs. It has been partially covered in various materials, although the crib itself is in good condition. A recent pole shed attached to the south houses the tractor. The logs of the barn are not in as good condition as those in the log crib. The barn also has undergone changes, with



Figure 8-8. Site 41DN167. Detail of log corner notching, northwest corner of house, looking southeast.





Figure 8-9. Site 41DN172. Log outbuilding.





Figure 8-10. Site 41DN172. Log outbuilding.



Figure 8-11. Site 41DN191. Board-and-batten Cumberland house, south (front) elevation, looking north.



additions of vertical board and corrugated metal roofs. The large two-car garage also is of vertical board, with a low-pitch corrugated metal roof; its condition is fair.

This site is recommended for mitigation as a part of the log culture complex in the project area. Documentary photos and site-specific research are recommended as further work for this site.

41DN191

The structures on this site include a house (Figure 8-11), two barns, an outhouse, and a storm cellar. The house plan is a tee formation with a full front porch on the south side and sideporches on the east and west sides of the extension. A small room has been set into the south end of the west porch. The intersecting gable roofs and shed porch roof are finished with corrugated metal, while the front porch shed roof is constructed of older wood shingles. The house is of wide vertical board. Interior chimneys are at the west end of the main section of the house, and the the north end of the extension. A third chimney was located on the east side of the main section, but has since been removed and patched with corrugated metal. The house is in excellent condition.

The larger barn, located west of the house, is constructed of vertical board with a steep corrugated metal roof that runs east-west. The barn is in good condition. The second, smaller barn, just northwest of the house, also is of vertical board. Only the roof framing remains of the gable roof, whose ridgeline ran east-west. A small shed addition is on the north half of the west side. The barn is in deteriorating condition overall. North of the first barn is the outhouse, which is of vertical board with a shed roof and is in good condition. The structures on this site are no longer in use.

This site is recommended as significant because it appears to be a complete complex in good condition, and because the Cumberland Tee house plan is typical in this area. Measured drawings, HABS archival photography, and site-specific research is recommended as further work on this site.

41DN196

Only one building is on this site. It is a two-story single room building with one-story shed-roofed wings on the north and west sides (Figure 8-12). The main section and wings are finished with board-and-batten. The west wing's shed roof is connected to the gable roof of the main section, while the north wing's shed roof ties into the gable end wall. Roofing material is corrugated metal. There are three exterior doors; the first is centered in the south wall of the main section, the second is near the center of the east wall of the main section, and the third is near the center of the west wall of the west wing. The only window in the main section is on the second level above the south door. One window is on each of the three sides of the west wing; one window is in each of the east and west sides of the north wing. No signs of a chimney were found. The foundation for the building is fieldstones and tree stump piers. Even though fragments of cardboard and newspaper used as wallpaper were found, it is difficult to determine if the building was originally a house or a barn without further research. Fragments of newspaper are dated 1923, indicating that the structure may have been used as a tenant dwelling. The building is in excellent condition.

The building is recommended for mitigation even though its original function is not known because of its unusual proportions and plan, which suggest an ethnic origin. Certainly it is a unique structure to the project area and deserves further close



Figure 8-12. Site 41DN196. Board-and-batten building, south and east elevations, looking northwest.



Figure 8-13. Site 41DN198. Log dogtrot house, west and south elevations looking northeast.



attention. Measured drawings, HABS archival photographs, and site-specific research are recommended for this site.

41DN198

The buildings on this site include a house (Figure 8-13), a stable, two standing outbuildings, and one collapsed outbuilding. A windmill also is present. The house is a large dogtrot of axe-hewn, dovetail-notched logs. The logs are chinked with rock, wood chips, and daubing. A deep board-and-batten addition is at the north end of the passage. A gable peak is at the south end of the passage. The peak, main gable roof, and hipped roof of the addition are of corrugated metal. There are no porches or chimneys extant. It is in good to excellent condition.

The stable is southeast of the house. The main section has a steep gable roof that runs east-west. Shed additions are on all but the west side. The stable is constructed of vertical board with corrugated metal roofs, and is in fair condition.

The first outbuilding is just north of the stables. It is of vertical board with a corrugated metal gable roof which runs north-south. A round metal chimney/vent is located approximately at the center of the ridge. It is in good condition. The outbuilding might have been a smokehouse, but further research is necessary to determine its exact function. The second outbuilding is in the northwesternmost area of the site. Its materials and construction were not recorded. The collapsed outbuilding is in the southernmost area of the site. The windmill is northeast of the collapsed building. This site is not occupied at this time.

The site is recommended for mitigation as part of the log culture complex in the project area. Measured drawings, HABS archival photography, and site-specific research are recommended for this site.

41DN223

The Hester homeplace was built between 1880 and 1890, and possibly earlier. Originally a log structure stood on the site of the current house. The log house was there when the Hesters acquired the land in the 1860s or 1870s. The log house was apparently torn down except for one room on the north side of the house. When the present house was built, this log structure on the northeast was used as an additional room, possibly a kitchen. The log room is pictured in a 1904 Hester family photograph and Steve Hester, born in 1911, remembers it as a child. Probably in the early 1920s, the log room was torn down and replaced with an addition on the northwest corner of the house. The current house, built between 1880 and 1890, is a simple vernacular house with symmetrical two over two sash windows on either side of the front door on the southside and on the east and west ends. The roof line runs east to west and the roof line of the 1920s addition runs north to south. The chimney is centrally placed. On the north side of the house where the log room once stood, the exterior wall is board and batten. There is a door on this side also. The east wall of the addition is board and batten and there is another entrance on this side. The north and west facades of the addition are wood sided. The porch on the south (front) facade was added in the 1920s or 1930s.

The house is in fair condition, mainly missing roof shingles. To the northeast of the house is a 1930s or 1940s cement block building. North of this structure is an outhouse, whose date of construction probably coincides with that of the house. Directly east of the outhouse is a storage shed, date of construction unknown. North of these buildings

is a collapsed barn and shed, date on these also is not known. There is a cellar to the west of the house that has stone lined walls and a bois d'arc roof. The Hester homeplace complex is representative of the early vernacular architecture of the area. Measured plans, documentary photographs, and site-specific research are recommended for this site.

41DN224

The structures on this site include a house, three barns, two outbuildings, a pumphouse, watertank, windmill, and a stone and concrete cellar. The house originally was a lap board finished dogtrot with Greek Revival detailing at the door and window openings. The original section's wood shingle gable roof runs north-south. Fireplaces and exterior chimneys were on both the north and south elevations. Soon after completion, additional rooms were attached to the north room only; a dining room, then kitchen to the east, and a bedroom to the west. The woodshingle gable roof intersects the original roof. Greek Revival corner plasters were applied to the additions. The "L" shaped porches on the east and west have Victorian diamond shingles at each end. Their shed roofs have been finished with asphalt shingles. A Victorian-style corner cabinet is in the northeast corner of the dining room. At some later date the south fireplace was removed along with the entire south wall. The north fireplace also has been removed and replaced with a red brick fireplace and the north wall patched. A bathroom and enclosed porch were added north of the dining room and kitchen. The house is in excellent condition, although it has been recently abandoned and is filled with trash.

The large main barn is northeast of the house. The steep gambrel roof runs north-south with extended, angled run-offs the length of the east and west eaves. It is finished with corrugated metal. The barn is finished with wide vertical boards; the boards at the gambrel ends are fishscale cut. Five doors and a sliding wagon-door are on the east; five doors and a sliding wagon-door are on the west; two windows and a central double-door with a loft door above are on the south; and a single door with a small loft door above are on the north. Doors are angle-cut at the top around interior diangle brace construction.

The northern third is a single hay storage area; another large storage area is east of the central alley; and three cribs with a feeder trough are on the west. Although the barn's red paint has faded, the barn itself is in excellent condition.

The first smaller barn is just southwest of the large barn. It is of wide vertical board with a large entrance and loft opening on the west. There is a main central stall area, a covered stable area open on the south, and a small wheat crib and storage area on the north. The roof is a three-sided hip roof into a gable peak and finished with corrugated metal. The gable ridge runs east-west; its overall condition is good. The second small barn is southwest of the first. It also is of wide vertical board. There are large sliding doors on the east and west to the larger main section. An enclosed area is on the south and an open area on the north. A shallow gable roof runs east-west with fishscale boards at either end; shed roofs are on the north and south sections. The roofing material is corrugated metal; condition is good.

The outbuildings are northeast of the large barn. The pumphouse, water tank, and windmill are closely grouped just southeast of the house; all are in good-to-excellent condition. The fully stocked cellar is west of the house; the steps are on the east and the screen vent is on the west.

This site is architecturally significant in several regards: the unique combination of plan and stylistic details of the house and the quality and detailing of the barns. A fully stocked cellar will yield much information about the foodways.

Because of the completeness and excellent condition and quality, this site may have greater than local architectural significance (either on a state or regional level). Measured drawings, archival HABS photographs, historic archaeological, as well as site specific historical research, is recommended for this site.

41DN226

This site consists of a house, barn, outbuilding, cellar, and windmill. The house is of wide horizontal lapboard with a two-story main section. Each floor has three rooms with the stairs in the central room/hall. The corrugated metal gable roof runs north-south. A two-room extension on the southwest completes the "L" plan with an asphalt shingle gable roof which runs east-west. A porch with an asphalt shingle roof runs the length of the north side of the extension. An interior brick chimney is at the west end of the extension and a smokestack is near the center. The main section has two smokestacks; one near the south end, and one near the center. While the house has been abandoned, it is in good condition.

The transverse crib barn is northwest of the house. It is of wide vertical board with a corrugated metal gable roof that runs north-south. Fishscale finished boards are located at the upper third of the gable ends; overall condition is fair. The outbuilding is just northwest of the house and was probably the garage. It is of wide vertical board with a shallow pitch gable roof running north-south. It is in deteriorating but stable condition. The windmill is north of the house, while the cellar is just southwest.

Mitigation is recommended for this site as part of the multi-story house investigation. Measured plans, documentary photographs, and site-specific research are recommended for this site.

41CO21

This is the site of the St. James Church. The church is a typical standardized rural church plan, with an addition on the rear. The main section is rectangular and finished with clapboard. The main entrance is at the west gable end with a hipped roof over the entrance. The addition also is a clapboard-finished rectangular structure. It is attached to the east end of the main building by two walkways; the addition also has entrances on the north and south gable ends. Visible roofing materials consist of several recent types of asphalt material. The main building and the addition are elevated on piers of rock, concrete block, and brick. St. James Church is in relatively good condition but is no longer in use.

The church is recommended for mitigation because it is the only extant church in the project area, and because it was identified in the field survey as housing an Afro-American congregation. Further research is necessary to confirm this, but if it is true, the church can be considered the focal point of a black community, and historically, few blacks have lived in the project area according to our research.

41CO33

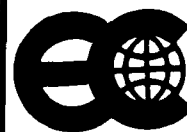
Two small buildings are on this site. The first is a single-room, board-and-batten structure with a board-and-batten north shed addition (Figure 8-14). The corrugated



Figure 8-14. Site 41CO33. East (front) elevation of single cell (with addition) board-and-batten house, looking west.



Figure 8-15. Site 41CO36. Detail of interior north wall of house/barn with log pen, looking west.



metal roof extends past the house to create a front porch on the east facade. Some wood shingles still remain; the shingles were nailed to spaced wood strips fixed on top of the rafters. A small interior chimney is located near the south end and was probably used for a stove. Overall, condition is good although the roof of the shed addition is collapsing. While this structure bears a strong resemblance to typical Lowland South slave cabins, further research is required before this can be confirmed. The building is currently used for hay storage.

The second building is a log room located southwest of the cabin. It is crudely constructed, in that the logs are very roughly finished with irregular 'V' notching; there also appears to have been no chinking. No roof is present but the room itself is in good condition.

This site is recommended for mitigation because of its log component (see discussion of log mitigation strategies), and because of the folk type represented by its other building. Further research will be necessary to determine the date of the complex and its buildings, as well as determining their original function. Documentary photographs and site-specific research are recommended for this site.

41CO36

Only one standing structure remains on this site. A log room (or crib) is on the west with an open passage and two board-and-batten rooms to the west (Figure 8-15). All three are under a continuous gable roof currently finished with corrugated metal. An open pole shed runs the length of the south facade and another shed is fixed to the east side of the log room. The logs are round, unchinked, and 'V' notched. The building is in good condition and is currently used as a barn; corral extensions have been added on the south.

Also on this site are the very impressive stone cellar remains of a 1904 Tee plan house (Figure 8-16), located northeast of the house/barn. Just to the west of the cellar is a unique round brick cistern. Both the cellar and the cistern were constructed using skilled masonry techniques; the cellar (basement) features an exterior entrance with stone steps, cut stone blocks in the walls, and an unidentified inset on the southwest wall.

One other collapsed outbuilding of undistinguished board is located due north of the house/barn.

This is an interesting site in that the stonework and the standing structure may have been built by a German farmer. Although no definite statement to this effect may be made until further research is undertaken, the standing structure might have originally been a German house-barn rather than a house later converted to a barn. Certainly the stone basement and brick cistern are unusual in this area and exhibit a high degree of craftsmanship. Measured drawings, HABS archival photographs, and site-specific research are recommended as further work for this site.

41CO38

An unusual one-and-one-half-story house exists on this site. Because of its deteriorating condition, determining exact plan type is difficult without further research. A shed addition runs the length of the west addition. Both the house and addition are wide vertical board. The main gable roof runs north-south and is currently



Figure 8-16. Site 41CO36. Basement of tee house (house not extant), looking north.



Figure 8-17. Site 41CO83. Log and frame house, north and east (front) elevations, looking southwest.



finished with corrugated metal. The shed addition's roof is finished with asphalt shingles.

Also on this site are the ruins of two outbuildings south of the house. The first consists of only a few scattered logs and foundation stones. The second is a scatter of boards. This site has been abandoned for some time.

Although the house is in deteriorated condition, its research potential is high in that information about this site will provide interpretive information for sites 41DN157, 41DN176, 41CO105, and 41CO110. In addition to its research potential, the house is of interest because of several unusual features: it is the only one-and-one-half- or two-story house in the project area that is not finished in clapboarding, indicating that it may be older than the others; its front doors are unusually close together; and its chimney is placed in a rear central position, not a traditional location.

The building on this site is a small tenant house. Also on the site are the ruins of a log cabin, a stone cellar, and a stone-lined well. The house is of horizontal board and tarpaper with a low-pitched, asphalt shingled roof running north-south. It is no longer occupied and is in fair condition.

The cellar is constructed of large stones roughly mortared, with a flat wooden roof. The collapsed cabin was constructed of roughly-hewn square logs with various notch types.

Mitigation is recommended for this site as a part of the log culture complex and multi-story house investigations. Measured drawings, HABS archival photographs, and site-specific historic research are recommended for this site.

41CO51

The ruins of two log structures and a large modern corrugated metal barn are located on this site. The logs are rough-hewn with dovetail notching. The original function of these buildings cannot be determined without further research.

Mitigation is recommended for this site as a part of the log culture complex in this area; further work should consist of documentary photographs and site-specific historical research.

41CO83

The buildings on this site include a house (Figure 8-17), a stable, and two outbuildings. Other items include a cellar, windmill, and the supports for a water tower. The house began as an early log cabin with a chimney on the south end; there have been two sets of additions since its initial construction. The first addition was a large ell-shaped room to the south and a room behind the original single cell (to the west), making the house a saddlebag with two back rooms on the west side. Still later, another addition was attached, again to the west side. The house is finished in clapboard, and the gable and shed roofs are finished in wood shingles. It has been abandoned for some time and is in deteriorating condition.

The stable, located north of the house, is built of concrete masonry units. Further investigation is necessary before the exact plan and number of stalls can be determined. The shallow gable roof is of corrugated metal and its ridgeline runs north-south. The overall condition of the building is fair. The small vertical board outbuilding northwest

of the stable seems to be the original stable and has three stalls. It also is in deteriorating condition. The second outbuilding is a large corrugated metal structure southwest of the stables; it is in good condition.

Mitigation as a part of the log culture complex in the project area is recommended for this site. Measured plans, documentary photographs, and historic research are recommended as further work for this site.

41CO103

A house (Figure 8-18), barn, garage, two ruins, and a well are located on this site. The house is an Elizabethan Revival planbook style in a basic tee formation. It is constructed of random fieldstone facing over frame, with jack arches over the door and window openings. The intersecting gable roofs are finished with two different colors of asphalt shingles. While the interior has been gutted, the exterior is in fair condition.

The large board-and-batten barn is west of the house. It is difficult to determine whether or not the partially open shed areas running the length of the west and east sides are original. The gable and shed roofs are of corrugated metal. The condition of the barn is fair. A garage of miscellaneous board is southeast of the house. There is a storage shed addition on the south. The pyramidal hipped roof and shed roof are finished with corrugated metal. The garage is in fair condition. A collapsed wooden structure is just north of the house; its original purpose is unknown. The outhouse, also collapsed, is northeast of the house. This site has been abandoned for some time.

The house has been deemed eligible for mitigation on two counts: it is the only house of its kind in the project area, and further, it is unusual to see an Elizabethan Revival vernacular house in a rural setting, since it was primarily an urban "developers" style. Minimal mitigation procedures are recommended, however, because of its poor condition. These should include documentary and oral history information necessary to date the structure, and an attempt should be made to discover why this style was chosen for use in this setting. Structural documentation should include detailed photographs, including interior shots which would document the exposed construction and/or framing details, and evidence of interior color schemes and decoration.

41CO105

A house (Figure 8-19), two barns, two collapsed outbuildings, a stone-lined well, and a delapidated windmill were found on this site. The house is two-story, with a single-story wing on the east. An unmatched pair of dark brick chimneys is present; the larger chimney is on the south end and the smaller is on the north. The front porch, only part of which remains, is on the west facade. The porch had a wood shingled hipped roof that was located approximately half-way past the first floor. There also was another porch roof somewhat lower. Further research is necessary to determine which porch was constructed first and why one porch was replaced with the other. The main gable roof is finished in wood shingles, as are the gable and shed roofs of the rear wing. Both parts of the house are finished in clapboard. Although it has been abandoned for some time, it is still in good condition.

The first barn is of both vertical and horizontal boards with partially open shed areas on both the west and east sides. The gable and shed roofs are of corrugated metal over wood shingles. A second barn is of similar construction but is slightly smaller. It is situated northeast of the first barn. Both barns are in fair to good condition.

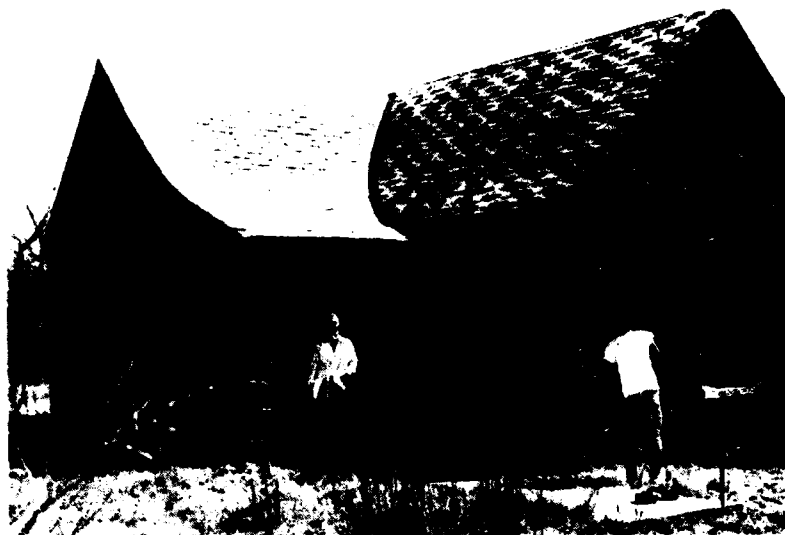


Figure 8-18. Site 41CO103. Rock-faced house, south and west elevations, looking northeast.



Figure 8-19. Site 41CO105. Two-story I-house, west (front) elevation, looking east.



A small, collapsed outbuilding of board and corrugated metal is just southeast of the house. The larger collapsed structure is northeast, between the house and barns; it too is of board and corrugated metal.

Mitigation work recommended for this site includes site-specific research, measured plans, and documentary photographs.

41CO110

Seven buildings are located on this site. They include a house (Figure 8-20), barn, carriage house, two chicken coops, and two sheds. A windmill and cellar also are present. The house is a traditional clapboard Georgian style with a pyramidal hipped roof. There are three large gable dormers with windows, on all but the west side. A brick chimney is located at the intersection of the north dormer point with the main roof. A porch runs the length of the east and most of the north facade; the porch has a shed roof. The front porch is open, while the north is screened in. A gable-roofed addition is located on the northwest corner of the house. All roofs are covered with asphalt shingles. The front elevation is typical of both the folk Georgian and the Greek Revival plans, with its centered door and symmetrical windows. There is Greek Revival influence in the decorative elements as well: the sidelights, Doric porch columns, and cornice treatment are all examples of Greek Revival detailing common in Texas through the first half of the twentieth century. No access to the interior by the survey crew was possible; therefore, the plan of the house cannot be discussed without further research. The house is in excellent condition and is currently occupied.

A planbook Victorian carriage house is west of the house. The board-and-batten building has a gable roof running east-west, and an arched entrance on the south facade. A tack room is attached to the west side. The carriage house also is in excellent condition.

A transverse crib barn (Figure 8-21) is located west of the house. It is constructed of board-and-batten with a corrugated metal gable roof running east-west. The cribs are located on the north and south walls. These buildings are all in good condition. The first chicken coop is northwest of the barn. It appears to have been board-and-batten originally but has since been repaired with various materials. The gable roof on the building runs east-west and is still finished in wood shingles. This chicken coop is in fair condition. The second, larger chicken coop, located east of the barn, is of board-and-batten with a low-pitch corrugated metal roof. It is in good condition. The shed north of the house is of vertical board with a catslide corrugated metal roof. The second shed is of board-and-batten with a wood-shingled gable roof. Both of the sheds are in good condition. The windmill, west of the house, is in deteriorated condition. The cellar, located between the carriage house and the shed, appears to be in good condition.

This site has been recommended for mitigation because it contains the only carriage house located in the project area, and because it appears to be a complete complex. In addition, further historical research may show that the house has local architectural and historical significance as a "status" house built with funds generated by the discovery of the Jacobs Oil Field. Mitigation work recommended includes measured plans, documentary photographs, and site-specific historical research.

41CO111

This site consists of a house (Figure 8-22), three barns, and a root cellar. The house is of two-story Cumberland plan, with a story-and-a-half wing to the south, creating a Tee



Figure 8-20. Site 41CO110. Georgian plan house, east (front) elevation, looking west. Note Greek Revival door treatment and front and side gables.



Figure 8-21. Site 41CO110. Transverse crib barn, looking west.





Figure 8-22. Site 41CO111. Two-story Cumberland house, north (front) elevation, looking south.



Figure 8-23. Site 41CO111. Log barn, south elevation, looking north.



plan. Another section, probably a later addition, is attached to the the west side of the wing, with a porch in the southwest corner; another porch spans the length of the east side of this rear wing. The main portion of the structure faces north and has a full front porch with a hipped roof. The north (front) facade features symmetrical pairs of doors and windows on the ground floor. Dark brick chimneys are centrally located on both sections. The main house section has a shallow hipped roof, while the back section has a gable roof; the back porches have deteriorated shed roofs. Roofing material is wood shingles throughout and the walls are finished in white clapboard. With the exception of the back porch roofs, the house is in good condition.

The first barn is located due east of the house. Originally a two-story log dogtrot (Figure 8-23), the building has been extensively altered. The heavy, planed, dovetailed log sections are in excellent condition. Additions have been made on the north and south sides, extending the gable roof. Roofs are of corrugated metal and the walls of the additions are of plank. There are corrals attached to the east and south of the building. Overall, the barn is in good condition.

The second barn is southeast of the house (Figure 8-24). This barn appears to have originally been a one-room log cabin. There is a vertical board shed addition on the south side that extends past the log section. The corrugated metal gable and shed roofs run east-west. The barn is in good condition.

A third barn is just south of the first barn. It is a transverse crib barn with a shed addition the length of the south side. The building is of simple frame construction with an interior of wide horizontal planks, and wide vertical planks on the exterior. The building is roofed with corrugated metal. With the exception of some missing exterior planks, this barn is in good condition. The site was probably occupied until recently.

Mitigation is recommended for this site as a part of the log culture complex in the project area; measured drawings, HABS archival photography, and site-specific historical research are recommended for this site.

41CO112

The only structure on this site is a log crib that is no longer in use (Figure 8-25). The logs are round and roughly-hewn, with the bark still on some; the logs are 'V'-notched. An entrance on the west side is approximately 3 ft high. A second crib was added to the south side of the building; this addition was constructed of smaller round, 'V'-notched logs. The structure was covered with vertical board, most of which is now missing. The roofs of the building also were finished in wide board, but they have since collapsed. Overall, the building's condition can be described as deteriorated.

This building is recommended for mitigation as part of the log culture complex. Further work recommended includes documentary photography and site-specific historical research.

41CO118

There are four log structures on this site, as well as an additional barn, cellar, and well. The oldest of the log structures is the one-room cabin constructed of hewn square logs with both full and half-dovetail notches (Figure 8-26). Chinking consists mainly of wood chips. Two additional rooms were added shotgun-fashion to the south side; these are of vertical board with clapboard on the exterior. The cabin has been refaced with a wider clapboard. On the west wall of the cabin is a large stone chimney in excellent condition.



Figure 8-24. Site 41CO111. Log barn, east elevation, looking west.



Figure 8-25. Site 41CO112. Double-pen log building, west (front elevation) looking east.





Figure 8-26. Site 41CO118. Detail of log corner notching, southeast corner of log house, looking northwest.



(Figure 8-27). The cabin has an asphalt-shingled gable roof running east-west. The additional rooms have a continuous intersecting gable roof. Porch remnants are located on both the west and east sides. The house has been abandoned for some time and is in deteriorating condition.

The second log structure is a hay crib of roughly-hewn logs with a variety of notching (Figure 8-28). Shed roofs extend from the gable roof on both the east and west sides; shingles remain on the east half. It is located east of the house and is in fair condition.

The third log building is the oldest barn, and is located southeast of the house. It is constructed of partially-hewn rounded logs with saddle notching. Shed additions on the north and south sides are constructed of various types of boards and repaired with corrugated metal. The gable and shed roofs also are of corrugated metal. The condition of this building is fair.

The fourth structure is of large round saddle-notched logs. This building was originally two smaller log structures that were jointed together at a later date. On the north, south, and east sides of this building, partially enclosed sheds have been added. Presently, the gable roof and shed roofs are of corrugated metal. The building is located east of the house and is in fair condition.

The remaining structure on the site is a large barn of various board construction located 3 m east of the log barn. The corrugated metal gable roof runs north-south with a pole shed on the south side. Its condition is fair. The cellar is a recent concrete structure in good condition.

This structure is recommended for mitigation as a part of the log culture complex in the project area. Its proximity to the Bloomfield school and cemetery make it an ideal vehicle for learning more about the early structure of that community. Measured plans, HABS archival photographs, and site-specific historical research are recommended as further work for this site.

41CO120

A log barn, garage, three collapsed outbuildings, a collapsed log structure, a standing outbuilding, and a concrete cellar are located on this site. There also is a house which is too recent to meet National Register criteria, and therefore the house was not recorded.

The log barn is actually two separate log cribs with a passageway under a common roof. The southwest crib is probably the older of the two in that the logs are rough, show more wear because of exposure, and are crudely 'V'-notched. The northeast crib is constructed of ax-hewn logs with half-lap joints; they are probably nailed or pegged, since that particular joint type is not stable over long periods of time. A pole shed spans the southeast side of the building, while a board-and-batten shed spans the northwest side. The cribs have been partially refaced with board-and-batten. Corrugated metal partially covers the wood shingled gable roof, which runs southwest to northeast. The log sections are in good condition, but the other parts of the building are deteriorating. The garage is a small board-and-batten structure southwest of the barn. The corrugated metal gable roof runs southwest to northeast. The overall condition of the building is fair.

The three collapsed outbuildings are of various kinds of board construction. One ruin is located along the southwest perimeter of the site, the second is just north of the



Figure 8-27. Site 40CO118. Detail of chimney, log and frame house, west elevation (looking east). Materials and construction are typical of early stone chimneys in the project area.





Figure 8-28. Site 41CO118. South and west elevations of log outbuilding, looking northeast.



garage, and the third is the northernmost building. The small log outbuilding is the most northwestern structure on the site. Further research is necessary to determine the construction and functions of these four buildings.

The remaining standing structure is a small barn of both vertical and horizontal board. The two partially enclosed shed sections are on the east and west sides; their shed roofs fit into the gable roof of the center section. The roofing material of the barn is corrugated metal. This building is located on the southwestern corner of the site. It is in fair condition.

Mitigation is recommended as part of the log culture complex; further work recommended includes measured plans, documentary photographs, and site-specific research.

41CO121

The structures on this site include a house, barn, chicken coop, shed, outhouse, and pumphouse. The original configuration and materials of the house cannot be determined without further research. The house as it stands now is of no distinct plan and has no stylistic elements or detailing. It is rectangular in shape with two small cutouts on the northeast and southeast corners. The intersecting gable roof is finished with asphalt shingles. Because of the age of the other structures, it is possible that this house was built at an early date as well and has gone through an extensive adaptive evolutionary process.

The barn also has evolved; it began as a tall, heavy, dovetail-notched log barn (Figure 8-29). Shed additions have since been added to all four sides; these additions do not reach the height of the original portion of the building. The additions are constructed of board-and-batten, vertical board, and corrugated metal. The gable and shed roofs are of corrugated metal. The log section is in excellent condition while the additions are in good to fair shape. The barn is northeast of the house.

The small chicken coop is northwest of the barn. The walls are constructed of wide vertical board and the roof of corrugated metal. A short doorway is located on the west side. The outhouse is adjacent to the northwest corner of the chicken coop and is also constructed of vertical board and shed-roofed with corrugated metal. The door to the structure is located on the northwest facade. The shed is located to the southeast of the chicken coop. It is constructed of vertical board with corrugated metal patches; the gable roof also is of corrugated metal. All three of these structures are in fair condition. The pumphouse is recent, and is located just west of the house.

The site is recommended for mitigation because of its log features; further work recommended includes documentary photography and site-specific historic research.

41CO136

The only structure on this site is a water-powered grist mill. The original board-and-batten walls have been almost completely covered with corrugated metal, as has the steeply pitched gable roof (Figure 8-30). The foundation of the building is a crude form of concrete made of limestone, coarse aggregate, and mortar. The mill is approximately 8 m² with two levels. The east and west facades each contain a single doorway near the north end of the ground floor. On the south facade there are three doorways on the ground floor and a window above the center door. The north facade

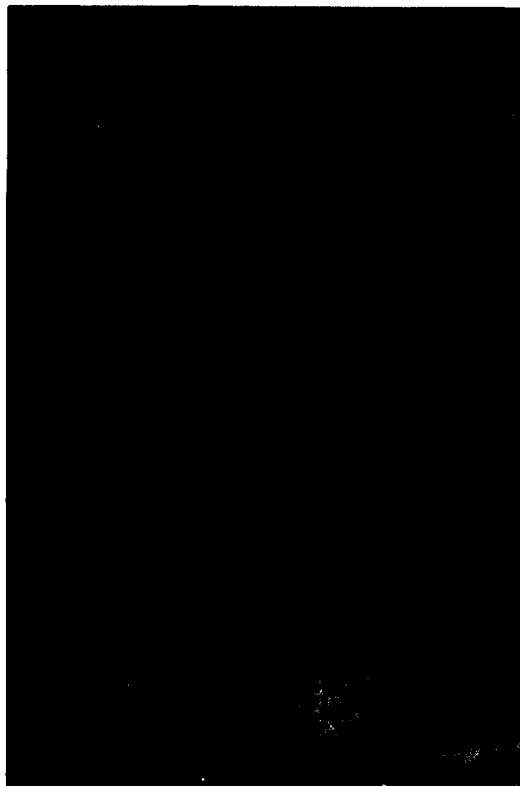


Figure 8-29. Site 41CO121. Detail of corner notching, southwest corner of log barn, looking northeast.





Figure 8-30. Site 41CO136. Grist mill, west and south elevations, looking northeast.



has two windows on the second level. The mill building seems to be in good condition but no access to the interior of the structure was possible.

As the only industrial site in the project area with in situ remains, the site is significant on a local level, and if good historical information is available, may be significant on a state level as well.

Measured drawings, HABS archival photography, and site-specific historical research are recommended in mitigating this site.

41GS75

There are five buildings and a storm cellar located on this site. The buildings include a house, a barn, and three outbuildings. The house is unusual for the project area in that it has a Midwestern Tee plan. It is constructed of board-and-batten and intersecting gable roof of both wood and asphalt shingles. The gable of the main sections runs east-west, while the main section faces north. A non-extant chimney was located at the interior intersection of the three rooms. The condition of the house is deteriorated but stable; it has been abandoned for some time.

The barn, located due west of the house, appears to be of transverse crib plan. It is constructed of wide vertical board, with a corrugated metal gable roof running north-south. The condition of the barn is fair. Three outbuildings also are of vertical board and plank with corrugated metal roofs. Their condition is deteriorated.

The cellar seems to be constructed of heavy timber or log. Trees and other vegetation have taken over the entrance to the cellar.

Mitigation work recommended for this site consists of measured plans, documentary photographs, and site-specific historical research.

Cemeteries

Cemetery recording was not included in the Scope of Work for the survey phase of the Lake Ray Roberts project. However, as discussed earlier in this report, funerary art and cemetery landscaping are important aspects of the material folk cultural resources of an area. This is particularly true in the South, where the annual community gathering (known as the "homecoming") includes upkeep of the local cemetery. Therefore, cemeteries in the project area should be systematically recorded as a part of the testing or mitigation phases of project work. In addition to features of the cemetery as a whole (such as plan, vegetation, and landscaping), folk art motifs and inscriptions on gravestones, and other features of individual cemetery plots should be recorded. A preliminary recording form has been developed and field tested by ECI as a part of survey research expressly for this purpose.

Comparative data bases for general cemetery features have been collected by Jordan's students for other parts of Texas (Clark 1972; Schroeder 1974; Gough 1975). This information could be used in conjunction with information from further research in the project area to discuss cemetery landscape patterning in north-central Texas.

In contrast, virtually no information has been collected on folk funerary motifs in this region. Work by Deetz and Dethlefsen (1966) and Francaviglia (1971) has shown that monument shape and size can be charted temporally, as certain styles gained or lost popularity. Shape also is related to religious symbolism, as is seen in the use of cross-

forms in Catholic areas (Francaviglia 1971; Jordan 1980), and size can be indicative of relative status in the community. Collection of information on individual grave characteristics would yield data from which to discuss the relationship of cemetery art to concurrent historic movements in art and architecture, and to illuminate the migration pattern of and diffusion of material culture elements by the historic population of the project area.

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APPENDIX I

**LAKE RAY ROBERTS
SURVEY FORMS**

SURVEY RECORDING FORMS

Survey recording forms to be used on the Lake Ray Roberts Project are discussed herein. Examples of all forms are included at the end of this appendix.

GENERAL FORM

The general form to be used for the recording of basic site information will be the standard University of Texas, Austin site survey form. The following is a brief explanation of the terms used on the form.

State: Refers to state wherein site is located; this will always be Texas.

County: Refers to county wherein site is located (Denton-DN; Cooke-CO; Grayson-GS).

Site no.: Unique site number, to be assigned in concurrence with TARL system.

Reservoir (or Project): This will refer to the Lake Ray Roberts Project.

Site name: Specific name to be assigned when site is tested or excavated.

Previous designations for site: Prior numbers or names which have been applied to the site during previous research projects.

Location: This should include regional names for an area, local landmarks, and directions for reaching the site by road or foot. Distances should be in meters and as specific as possible.

Type of site: This should describe the site in terms of physical features (i.e., rockshelter, midden, artifact scatter, etc.) and not in regard to cultural/functional interpretation.

Cultural affiliation: This should refer to a specific archaeological group or period, i.e., Carrollton Focus, Gibson Aspect, or Archaic Period; this will depend generally upon the presence or absence of diagnostic artifacts or features.

Site description: This should include specific information about site size, kind of material present, features, density distributions, and topographic features.

Area of occupation: This should refer to overall site size along with specific sizes and relationships of features and activity areas.

Present condition: This should refer to erosional features, surface coverage, and present land-use observations.

Character and depth of fill: This should describe the nature of the soil associated with the site and the depth of the deposit.

Work done by survey: This should refer in general to the type of procedure employed to investigate the site. At Lake Ray Roberts, none of these procedures will be utilized during Phase I.

Material collected: This should list all artifacts collected in the field, both prehistoric and historic. At Lake Ray Roberts, these should be keyed-in individually to a site map.

Owner and address: In addition to the owner, any tenants or leasees also should be listed.

Informant and address: This should include any person(s) offering information about a specific site.

Previous investigation: This should include both previous professional work and its nature, along with work by local collectors.

Material observed or reported: This should describe artifactual material present on the site, or in local collections, as well as non-artifactual material, such as bone and shell.

Recommendations for work: This should clearly state the nature and extent of work recommended, plus the specific reasons behind the recommendation.

Photographs: This should refer to the types of photographs taken of the site (i.e., black-and-white, color slide, color infrared) and their catalogue numbers (recorded on a photo log).

Map reference: This should include the name of the U.S.G.S. quad map on which the site is located, the UTM Location, and a COE aerial photo reference no.

Date: This should include both the date the site was visited, and the date the form was filled out, if the two are different.

SUPPLEMENTAL FORMS

In addition to the General Survey Form, all sites will be recorded on supplemental forms, applicable either to prehistoric sites or to historic sites. It is intended that the data on these forms be punched onto computer cards and used as input for computer analysis. The following is a list of the variables used along with a description of their potential values. The Sheet 1 form is applicable to both historic and prehistoric sites.

Location

Site #: Self-explanatory.
Tract #: Self-explanatory.
Elevation #: Self-explanatory.

Components

Predominant occupation: This refers to the cultural affiliation represented by the majority of diagnostic artifacts from a particular site. The following is a list of possible cultural components present within the Lake Ray Roberts area and the diagnostic artifacts generally associated with them:

01) Paleo-Indian--The presence of a Paleo-Indian component is based upon large, diagnostic dart points. In the Lake Ray Roberts area these may include Folsom, Clovis, Plainview, Midland, and Hellgap-like points.

(02) The Early Phase of the Archaic Period is distinguished by the presence of Edgewood, Trinity, Carrollton, Wells, and Wheeler points, along with some Paleo-Indian points such as Plainview and Scottsbluff. These sites also should be characterized by the presence of a high proportion of non-local lithic material.

03) The Middle Archaic Phase should be recognizable by the presence of point forms such as Castroville, Martindale, Pedernales, Bulverde, and Palmillas, in addition to earlier forms such as Trinity, Carrollton, and Edgewood. Sites of this period also should be distinguished by the presence of Waco sinkers, Carrollton axes, and a high proportion of non-local lithic material.

04) Late Archaic sites should contain Ellis, Yarborough, Ensor, Darl, and Elam points. Earlier style axes and Waco sinkers do not occur, and the majority of lithic material should be of local origin.

05) Undetermined Archaic--self-explanatory.

06) Early Neo-American sites should contain grit, grog, or bone-tempered pottery. Recognizable east Texas exotic ceramic types should belong to the Gibson Aspect. Projectile point forms should include Scallorn and Alba.

07) Late Neo-American Phase sites should be characterized by the presence of locally made shell-tempered pottery, specifically Nocona Plain. Ceramic imports from east Texas should belong to the Fulton Aspect. Projectile point forms include Bonham, Clifton, Fresno, Harrell, Perdiz, and Livermore.

08) Undertermined Neo-American--self-explanatory.

09) Historic Indian sites should be recognizable by the presence of early white trade goods, plus grooved mauls, elbow pipes, and Norteno Focus pottery types such as Womack Engraved. Also, most bone tools will be made on bison bones and lithic tools will be generally large.

10) Historic European-pre-Civil War--self-explanatory.

11) Historic European-Civil War-1900--self-explanatory.

12) Historic European-post-1900--self-explanatory.

13) Undetermined Prehistoric--self-explanatory.

14) Undetermined Historic--self-explanatory.

Secondary Occupation: This should refer to the cultural affiliation represented by diagnostic artifacts occurring with a lesser frequency than those representing the primary occupation. The values for this variable are the same as above.

Isolated Find: An isolated find will be described as an artifact not found within a cultural context. This artifact may be of an eroded or derived nature. The type of artifact will be recorded according to the numbered list which follows on Sheets 2 and 3.

Site Location

Physiographic Province: This will refer to the physical or geographic nature of the area in which the site is located.

Primary Accessibility: This refers to the physiographic province most accessible to the site's inhabitants other than the one in which the site is situated.

Secondary Accessibility: This refers to the next closest physiographic province accessible, other than the one in which the site is situated, or the one offering primary accessibility.

Vegetation: This refers to the climax vegetation conditions of the area in which the site is located.

Water source: This refers to the distance of the site from a permanent water source.

Soil type: This refers to the general type of soil on which the site is located.

Lithic outcrops: This refers to the type of lithic outcrops (if any) close to the site.

Faunal resources: This refers to the type of faunal communities which are easily accessible from the site.

Site Description:

These three variables refer to physical parameters of the site and are self-explanatory.

Density of Cultural Material:

These six to eight variables record estimated frequencies of cultural material within the entire site.

Lithic Raw Material:

These three variables record an approximate percentage for the major types of lithic raw material expected in the area.

Condition of Site:

Collecting: This refers to the nature of previous amateur work at the site.

Erosion: This refers to the degree of surface erosion present on the site.

Current land use: This refers to the nature of present land use on the site.

Surveyor: Designation of crew chief.

The supplemental Forms, Sheets 2 and 3, consist of a prehistoric and historic artifact key and type-list of artifacts which are expected to occur in the Lake Ray Roberts area. Whenever possible frequency counts should be made for each of the artifact types. When this is not possible, or impractical, estimates or presence/absence observations should be recorded. The following is an explanatory list of some of the terms used on the prehistoric artifact key.

Dart Point Types:

These are specific types of large projectile points, believed to date generally from the Paleo-Indian to the Archaic Period.

Arrow Point Types:

These are specific types of small projectile points, dated to the Neo-American and Historic Periods.

Other Prehistoric Material:

The following type list is given as a partial key for prehistoric artifacts:

Primary flake: the dorsal surface is covered with cortex.

Secondary flake: some cortex remains on the dorsal surface but it covers less than 50% of the dorsal surface.

Interior flake: no cortex is present on the dorsal surface of the flake.

Biface Thinning Flake: flake with characteristic striking platform and rather thin and longitudinally vaulted cross section. Lenticular shaped platform has acute angle relationship to dorsal surface, and overhang or lip on ventral face edge.

Retouched flake: flake with secondary flaking on one or more edges.

Blade: specialized flake whose length is two or more times its width. One or more ridges parallel to the lateral edges of the blade should be present.

Retouched blade: a blade showing patterned flake removal on one or more edges.

Quarry blank: a usable piece of lithic material suitable for making a lithic tool. No waste material is present. Trimmed down piece of material not yet at preform stage.

Biface: artifact bearing flake scars on both faces.

Perforator: artifact with narrow elongated shaped projection with a relatively thick or diamond-shaped cross section.

Sidescraper: an implement with bevelling on one or more lateral edges to form a strong cutting edge.

Endscraper: beveled implement with working edge on dorsal or proximal end of flake.

Other scraper: the position of the worked edge on the flake cannot be determined.

Graver: a stone implement generally made by pressure flaking and intentionally designed to have a functional point.

Notch: an implement exhibiting a single flake scar with overlapping marginal retouch producing a concave working edge.

Burin: a chisel-like implement derived from a flake or blade. Generally forms a right-angle edge on one or more margins.

Burin spall: specialized flake or blade removed from a burin core. It must be thick in relation to its length and usually is triangular or rectangular in section.

Denticulate: a stone implement containing prominences resembling teeth similar to those on a saw.

Clear fork gouge: a bifacial implement having a triangular or subtriangular outline with a steeply beveled working edge or bit. This edge is usually straight, mildly convex or markedly convex, but some do have concave or "scooped out" bits.

Other flaked tool: a stone implement that has been unifacially or bifacially worked, but fits no diagnostic heading.

Core: a piece of flakable material having one or more complete flake scars.

Heat spall: flake-like fragment produced by heating the material. No bulb of force or point of applied force is present. Discoloration toward reds and oranges is common. A vitreous luster observed on flake scars occurring after heating is in contrast to the duller remaining surface.

Hammerstone: cobble or pebble showing signs of peripheral battering. Most commonly of quartzite but discoidal flint hammerstones have been found associated with Henrietta Focus sites.

Chopper: heavy core tool presumably used for chopping; may be unifacial or bifacial.

Milling stone/metate: a ground slab (sandstone) exhibiting rotary or linear striations across a smoothed surface. This surface may be mildly basin shaped.

Mano: a ground stone implement (hand held), oval to rounded rectangular in shape, exhibiting rotary or linear striations across one or more surfaces.

Carrollton axe: a cobble shaped by bold, rough flakes into a tool with a cutting bit on one end while the other end is blunt. Notches occur near the midsection for hafting purposes.

Waco sinker: oval shaped cobble which has been notched at one or both ends from chipping or grinding.

Historical Archaeological Terms:

The terms defined below are those used to record and categorize the historical archaeological artifacts for the analysis and use in Table A4-2. All the major categories are defined below in alphabetical order under the major headings of glass, metal, ceramics, and miscellaneous artifacts.

Glass:

Cylindrical bottle - applied neck: a ring, band, or collar of soft, molten glass has been applied to the bottle neck to form a lip. This technique has an associated date of 1840-1913 (Newman 1970:74).

ABM (automatic bottle machine): The seam runs up the side of the lip and over the top. The base has a round seam which is sometimes off-center. It began being manufactured in 1903 (Lorrain 1968:44).

Black: Black color was produced by the addition of iron slag to the glass mixture. It was manufactured between 1815-1885 (Ward et al. 1977).

Blue: a common color of glass. It was not until well into the twentieth century (after 1930s) that the use of color additives for commercial glass became controlled. With this control, color bottles were mass produced.

Brown: after 1930s, brown glass replaced aqua containers for alcoholic beverages and medicines (Ward et al. 1977:240).

Bust-off-grind: the technique refers to breaking off the top and grinding it to a smoothed surface. It is dated occurring from 1820-1913 (Newman 1970:74).

Clear: After 1930s, arsenic was used to produce a mineral mixture for colorless glass (Ward et al. 1977:240).

Embossed (lettered): the first paneled bottles appeared in 1867 (Lorrain 1968:44).

Green: a common color of glass. It was not until well into the twentieth century (after 1930s) that the use of color additives for commercial glass became controlled. With this control, color bottles were mass produced (Ward et al. 1977:290).

Other color: this category was established to combine all the colors of glass which make up a minority of the colors. These colors also appeared after 1930s as described previously under "green" and "blue."

Pontil: the pontil scars occur on the base of bottles and indicate that the bottle was hand finished by the use of a pontil rod held to the base by melted glass. A pontil mark essentially dates a bottle as pre-1860 (Ward et al. 1977:230).

Semi-ABM: the bottle seam runs up the side of the lip and stops about 1/4" from the top. The top of the lip was finished by grinding. This technique began in 1881 (Lorrain 1968:44).

Snap-case: this technique replaced the pontil rod for finishing bottles. This lipping tool was used between 1857-1913 (Ward et al. 1977:230).

White: this color refers to white-colored milk glass.

Window: there was no distinction made between types of window plate glass. It is described as being a uniformly flat piece of glass.

Metal:

Cut nails: these machine, or square-cut nails, are dated basically as being most commonly in use between 1800 and 1900.

Wire nails: in the early 1900s, wire, or round, nails replaced square-cut nails as the major type.

Miscellaneous: nails represented the majority of the artifacts recorded during the survey. Therefore, all other metal artifacts were lumped into this category. It presents the unidentified items as well as listing those identified.

Ceramics:

No distinction was made of whether the ceramic was earthenware, stoneware, or porcelain.

Banded: the decoration consists of a series of differently colored concentric machine-painted bands. Annular decorated ceramics made from whiteware and yellowware tend to be mixing bowls, chamber pots, and mugs. These ceramics are predominant until the end of the nineteenth century (Price 1979:18).

Blue featheredged: this decoration consists of a rim design, generally molded, over which a colored band is applied. This appears to have been made until in the 1870s (Price 1979:17).

Brick: bricks are manufactured from moist clay hardened by heat typically used in construction. Often bricks have recognizable makers mark, decoration consisting of a glaze, and firing technique which can be used to date them.

Crockery: these are thick ceramic pieces often greater than 1.0 cm, which were used for general household purposes, e.g., mugs, chamber pots, and flower pots. The sherds occur with a slip covered by a glaze, slip without a glaze, glaze without a slip, or no surface treatment. The type of treatment provides temporal information.

Plain white: these are sherds with no indication of molding or other decoration. They consist of a white paste covered by a clear glaze. They rarely provide temporal information.

Sponge: this decoration also is called spatterware. The decoration usually consists of a sponge dipped in paint and applied in a wide band around the vessel rim. This form of decoration appears to have been manufactured after the later 1820s until around 1860 (Price 1979:19).

Miscellaneous: This category covers other decorative techniques, such as decalcomania, hand painting, embossing, other colored transfer prints, etc. Also included are items such as porcelain doll parts.

Miscellaneous artifacts:

This category mainly includes items made from materials other than glass, metal, or ceramics. It also lists items not covered by the sub-categories, e.g. buttons.

U.T. Austin—SITE SURVEY FORM

State _____ County _____ Site No. _____

Reservoir (or Project) _____ Site name _____

Previous designations for site _____

Location _____

Type of site _____

Cultural affiliation _____

Site description _____

Area of occupation _____

Present condition _____

Character and depth of fill _____

Work done by survey: surface collection _____ test pits _____ excavation _____

Material collected _____

Owner and address _____

Informant and address _____

Previous investigation _____

Material observed or reported _____

Recommendations for work _____

Photographs _____ Map reference _____

Recorded by _____ Date _____

Field Survey Data
Sheet 1

Location:

1:1-6	_____	Site #
2:7-12	_____	Tract #
3:13-14	_____	Card #

Components:

4:15-16	_____	Predominant Occupation (01=Paleo, 02=Early Archaic, 03=Middle Archaic, 04=Late Archaic, 05=Undetermined Archaic, 06=Early Neo-American, 07=Late Neo-American, 08=Undetermined NeoAmerican, 09=Historic Indian, 10=Historic European-pre-Civil War, 11=Historic European- Civil War thru 1900, 12=Historic European-post-1900, 13=Undetermined Prehistoric, 14=Undetermined Historic,
5:17-18	_____	Secondary Occupation (same values as above)
6:19	_____	Isolated Find (See Sheets 2 and 3).

Site Location:

7:20	_____	Physiographic province (1=Floodplain, 2=Terrace, 3=Upland, 4=Terrace or upland slope, 5=uncertain)
8:21	_____	Primary accessibility other than site location (see above)
9:22	_____	Secondary accessibility other than site location (see above)
10:23	_____	Vegetation, (1=grassland, 2=oak-hickory forest, 3=wetlands)
11:24	_____	Water source (1=on site, 2=less than 100m, 3=100m to 1000m, 4=more than 1000m)
12:25	_____	Soil type (1=sandy, 2=sandy loam, 3=clayey)
13:26	_____	Lithic outcrops (1=pebbles and cobbles, 2=sandstone, 3=limestone, marl, etc, 4=other)
14:27	_____	Faunal resources (1=terrestrial, 2=aquatic, 3=1 and 2)

Site Description:

15:28-31	_____	Elevation (in feet)
16:32-34	_____	long axis orientation (degrees E of N)
17:35-37	_____	length (meters)
18:38-40	_____	width (meters)

Density of Cultural Material:

19:41	_____	ceramic (1=1-10, 2=11-50, 3=51-100, 4=more than 100)
20:42	_____	chipped stone (see above)
21:43	_____	ground stone (freq, 9=9 or more)
22:44	_____	burned rock (1=scatter, 2=concentrated)
23:45	_____	hearth (freq)
24:46	_____	house pits (freq)
25:47	_____	_____
26:48	_____	_____

Lithic Raw Material:

27:49-51	_____	% chert
28:52-54	_____	% quartzite
29:55-57	_____	% other

Condition of Site:

30:58	_____	Collecting (1=minimal, 2=potholing, 3=destroyed)
31:59	_____	Erosion (1=undisturbed, 2=partially disturbed, 3=wholly eroded)
32:60	_____	Current land use (1=undisturbed, 2=pasture, 3=plowed field, 4=construction site, 5=shore-line erosion)
33:61-63	_____	Surveyor (3 letter code: ex. TEF)

**Prehistoric Artifact Key
Sheet 2a: Projectile Points**

Location:

1-6	_____
7-12	_____
13-14	_____

Site #
Tract #
Card #

Dart Point Types

1:15-16	_____
2:17-18	_____
3:19-20	_____
4:21-22	_____
5:23-24	_____
6:25-26	_____
7:27-28	_____
8:29-30	_____
9:31-32	_____
10:33-34	_____
11:35-36	_____
12:37-38	_____
13:39-40	_____
14:41-42	_____
15:43-44	_____
16:45-46	_____
17:47-48	_____
18:49-50	_____
19:51-52	_____
20:53-54	_____
21:55-56	_____
22:57-58	_____
23:59-60	_____
24:61-62	_____
25:63-64	_____

Clovis
Folsom
Plainview
Midland
Hell Gap
Scottsbluff
Meserve
Edgewood
Trinity
Carrollton
Wells
Wheeler
Castroville
Martindale
Pedernales
Bulverde
Palmillas
Ellis
Elam
Dallas
Yarborough
Darl
Gary
Pandora
Kent

Arrow Point Types

26:65-66	_____
27:67-68	_____
28:69-70	_____
29:71-72	_____
30:73-74	_____
31:75-75	_____
32:77-78	_____
33:79-80	_____

Scallorn
Alba
Bonham
Clifton
Fresno
Harrell
Perdiz
Washita

Miscellaneous Types

_____	_____
_____	_____
_____	_____
_____	_____

Prehistoric Artifact Key
Sheet 2b: General

Location:

1-6 _____
7-12 _____
13-14 _____

Site # _____
Tract # _____
Card # _____

Miscellaneous Prehistoric Material:

34:15-17	_____	Primary flakes
35:18-20	_____	Secondary flakes
36:21-24	_____	Interior flakes
37:25-27	_____	Biface Thinning Flakes
38:28-29	_____	Retouched Flakes
39:30-31	_____	Blades
40:32-33	_____	Quarry Blanks
41:34-35	_____	Bifaces
42:36-37	_____	Perforators
43:38-39	_____	Sidescrapers
44:40-41	_____	Endscrapers
45:42-43	_____	Other Scrapers _____
46:44-45	_____	Gravers
47:46-47	_____	Notches
48:46-47	_____	Burins
49:50-51	_____	Burin spalls
50:52-53	_____	Denticulates
51:54-55	_____	Clear Fork Gouge
52:56-57	_____	Other Flake Tools _____
53:58-59	_____	Cores
54:60-61	_____	Heat Spalls
55:62-63	_____	Hammerstones
56:64-65	_____	Choppers
57:66-67	_____	Milling Stones/Metates (Circle one)
58:68-69	_____	Manos
59:70-71	_____	Carrollton Axes
60:72-73	_____	Waco Sinkers
61:74-75	_____	Miscellaneous Bone _____
62:76-77	_____	Bison Bone _____
63:78-79	_____	Bone Tools _____

New Card

64:15-17	_____	Charcoal
65:18-19	_____	Mussell Shell
66:20-21	_____	Snail Shell
66:22-23	_____	Misc. Shell
68:24-25	_____	Shell-tempered Ceramics
69:26-27	_____	Grit-tempered Ceramics
70:28-29	_____	Grog-tempered Ceramics
71:30-31	_____	Bone-tempered Ceramics

72:32-33
73:34-35
74:36-37
75:38-39
76:40-41
77:42-44

Plain Ceramics
Engraved Ceramics
Incised Ceramics
Fingernail-impressed Ceramics
Other Ceramics
Fire Cracked Rock

Historic Artifact Key Sheet 3

Location:

1-6 _____
7-12 _____
13-14 _____

Site #
Tract #
Card #

Artifacts:

Ceramics: Decorated

78:15-16 _____
79:17-19 _____
80:19-20 _____
81:21-22 _____
82:23-24 _____
83:25-26 _____
84:27-28 _____
85:29-30 _____
86:31-32 _____
87:33-34 _____

lined ware
banded ware
blue feathered edge ware
handpainted floral design
decalcomania
solid glazed ware
blue transfer printed
sponged
tin-enameled
embossed

Ceramics: Undecorated

88:35-36 _____
89:37-38 _____
90:39-40 _____
92:40-42 _____
92:43-44 _____
93:45-46 _____

plain white to buff colored
tin-enameled
terricota
crockery
tile
brick

Architecture

94:47-48 _____
95:49-50 _____
96:51-52 _____
97:53-54 _____
98:55-56 _____
99:57-58 _____
100:59-60 _____
101:61-62 _____
102:63-64 _____
103:65-66 _____
104:67-68 _____
105:69-70 _____
106:71-72 _____
107:73-74 _____
108:75-76 _____
109:77-78 _____

window glass
cut nails (-8 pen)
cut nails (8-16 pen)
cut nails (+16 pen)
cut nail fragments
wire nails (small)
wire nails (medium)
wire nails (large)
wire nail fragments
spikes
logs
planks and beams
roofing materials
door lock parts
door knobs
hinges

Arms (New Card)

110:15-16 _____
111:17-18 _____
112:19-20 _____
113:21-22 _____

balls, shot, sprue
gunflints, spalls
cartridges
gun parts

Clothing

114:23-24
115:25-26
116:27-28
117:29-30
118:31-32
119:33-34

buckles
thimbles
buttons
shoes
pins
glass beads

Personal

120:35-36
121:37-38
122:39-40
123:41-42
124:43-44
125:45-46
126:47-48
127:49-50
128:51-52

construction tools
farm tools
toys
pipes
botanical
horse tack
miscellaneous hardware
storage items
barbed wire

Furniture

129:53-54

household furnishings

Miscellaneous

Glass Bottles (New Card)

130:15-16

automatic bottle machine (ABM) - any part

Top

131:17-18
132:19-20
133:21-22
134:23-24
135:25-26

Semi-ABM
sheared lip
laid on lip
"bust-off and grind" process
applied neck and shaped lip

Base

136:27-28
137:29-30
138:31-32
139:33-34

rough pontil
improved pontil
snap case - clear or purple
snap case - other color

Body Sherd

140:35-36
141:37-38
142:39-40
143:41-42
144:43-44
145:45-46
146:47-48
147:49-50
148:51-52

cylindrical - black color
cylindrical - purple color
cylindrical - clear color
cylindrical - other color
panel
embossed - "Federal Law Prohibits..."
embossed - slug plate
embossed - "poison"
embossed - incised mold

Complete bottles

149:53-54

(include descriptions in field notes)

APPENDIX 2

SITE DATA TABLES

Table A2-1.
Lake Ray Roberts: Site physiographic data

Site	Type	Drainage	Elevation (m)	Topographic Location	Soil Association
41DN76	Historic	Isle du Bois	183	T1 Terrace	Lindale clay loam
41DN77	Historic	Culp Branch	207	T2 Terrace	Navo clay loam
41DN78	Historic	Elm Fork	181	T1 Terrace	Burleson clay
41DN79	Pre./Hist.	Elm Fork	180	T1 Terrace	Bastrop fine sandy loam
41DN80	Prehistoric	Elm Fork	181	T1 Terrace	Bastrop fine sandy loam
41DN81	Pre./Hist.	Elm Fork	178	T1 Terrace	Bastrop fine sandy loam
41DN82	Prehistoric	Elm Fork	175	Floodplain	Frio silty clay
41DN83	Hist./Stg. Str.	Elm Fork	183	T1 Terrace	Lewisville clay loam
41DN84	Pre./Stg. Str.	Elm Fork	186	T1 Terrace	Navo clay loam
41DN85	Prehistoric	Elm Fork	177	T1 Terrace	Bastrop fine sandy loam
41DN86	Historic	Elm Fork	169	Floodplain	Frio silty clay
41DN87	Pre./Hist./ Stg. Str.	Elm Fork	180	T1 Terrace	Altoga silty clay
41DN88	Historic	Elm Fork	192	T2 Terrace	Justin fine sandy loam
41DN89	Prehistoric	Elm Fork	201	T2 Terrace	Navo clay loam
41DN90	Historic	Elm Fork	168	Floodplain	Frio silty clay
41DN91	Historic	Elm Fork	186	T1 Terrace	Lewisville clay loam
41DN92	Historic	Elm Fork	192	T2 Terrace	Justin fine sandy loam
41DN93	Historic	Elm Fork	182	T1 Terrace	Altoga silty clay
41DN94	Historic	Elm Fork	184	T1 Terrace	Justin fine sandy loam
41DN95	Historic	Elm Fork	186	T1 Terrace	Navo clay loam
41DN96	Pre./Hist.	Elm Fork	183	T1 Terrace	Navo clay loam
41DN97	Historic	Johnson Branch	195	T2 Terrace	Callisburg fine sandy loam
41DN98	Prehistoric	Isle du Bois	187	T1 Terrace	Aledo sandy loam
41DN99	Prehistoric	Isle du Bois	177	T1 Terrace	Bastrop fine sandy loam
41DN100	Historic	Elm Fork	184	T1 Terrace	Altoga silty clay
41DN101	Prehistoric	Elm Fork	179	T1 Terrace	Frio silty clay
41DN102	Prehistoric	Isle du Bois	175	T1 Terrace	Bastrop fine sandy loam
41DN103	Prehistoric	Pond Creek	177	Floodplain	Frio silty clay
41DN104	Historic	Elm Fork	186	T1 Terrace	Wilson clay loam
41DN105	Historic	Elm Fork	180	T1 Terrace	Navo clay loam
41DN106	Stg. Str.	Isle du Bois	189	T2 Terrace	Callisburg fine sandy loam
41DN107	Stg. Str.	Isle du Bois	191	T2 Terrace	Bastrop fine sandy loam
41DN108	Historic	Elm Fork	183	T1 Terrace	Navo clay loam
41DN109	Historic	Elm Fork	183	T2 Terrace	Navo clay loam
41DN110	Historic	Elm Fork	186	T1 Terrace	Wilson clay loam
41DN111	Historic	Pond Creek	195	T1 Terrace	Ponder loam
41DN112	Pre./Hist.	Elm Fork	183	T1 Terrace	Altoga silty clay
41DN113	Historic	Elm Fork	181	T1 Terrace	Wilson clay loam
41DN114	Prehistoric	Johnson Branch	181	T1 Terrace	Gowen clay loam
41DN115	Prehistoric	Johnson Branch	189	T1 Terrace	Lindale clay loam
41DN116	Historic	Isle du Bois	183	T1 Terrace	Navo clay loam
41DN117	Historic	Elm Fork	177	T1 Terrace	Navo clay loam
41DN118	Hist./Stg.Str.	Culp Branch	198	T1 Terrace	Navo clay loam
41DN119	Historic	Elm Fork	186	T1 Terrace	Wilson clay loam
41DN120	Historic	Elm Fork	195	T1 Terrace	Navo clay loam
41DN121	Stg. Str.	Elm Fork	195	T2 Terrace	Navo clay loam
41DN122	Stg. Str.	Elm Fork	191	T2 Terrace	Wilson clay loam
41DN123	Hist./Stg.Str.	Elm Fork	187	T1 Terrace	Wilson clay loam
41DN124	Hist./Stg.Str.	Elm Fork	198	T1 Terrace	Medlin-Sanger clay
41DN125	Stg. Str.	Elm Fork	187	T1 Terrace	Wilson clay loam
41DN126	Historic	Culp Branch	201	T2 Terrace	Navo clay loam
41DN127	Stg. Str.	Elm Fork	183	T1 Terrace	Navo clay loam
41DN128	Hist./Stg.Str.	Elm Fork	180	T1 Terrace	Navo clay loam
41DN129	Hist./Stg.Str.	Elm Fork	180	T1 Terrace	Justin fine sandy loam
41DN130	Hist./Stg. Str.	Pond Creek	198	T2 Terrace	Medlin-Sanger clay
41DN131	Hist./Stg. Str.	Elm Fork	189	T1 Terrace	Navo clay loam
41DN132	Hist./Stg. Str.	Pond Creek	189	T1 Terrace	Navo clay loam
41DN133	Hist./Stg. Str.	Pond Creek	186	T1 Terrace	Navo clay loam
41DN134	Hist./Stg. Str.	Pond Creek	191	T1 Terrace	Navo clay loam
41DN135	Historic	Pond Creek	184	T1 Terrace	Navo clay loam
41DN136	Hist./Stg. Str.	Pond Creek	186	T1 Terrace	Sanger clay

Table A2-1. (Cont.)

Site	Type	Drainage	Elevation (m)	Topographic Location	Soil Association
41DN137	Hist./Stg. Str.	Pond Creek	186	T1 Terrace	Sanger clay
41DN138	Hist./Stg. Str.	Elm Fork	183	T1 Terrace	Justin fine sandy loam
41DN139	Hist./Stg. Str.	Elm Fork	183	T1 Terrace	Altoga silty clay
41DN140	Hist./Stg. Str.	Elm Fork	178	T1 Terrace	Justin fine sandy loam
41DN141	Stg. Str.	Elm Fork	184	T1 Terrace	Justin fine sandy loam
41DN142	Hist./Stg. Str.	Elm Fork	186	T2 Terrace	Birome-Rayex-Aubrey complex
41DN143	Stg. Str.	Isle du Bois	184	T1 Terrace	Navo clay loam
41DN144	Stg. Str.	Elm Fork	189	T2 Terrace	Justin fine sandy loam
41DN145	Stg. Str.	Elm Fork	189	T2 Terrace	Justin fine sandy loam
41DN146	Stg. Str.	Isle du Bois	189	T1 Terrace	Navo clay loam
41DN147	Historic	Pond Creek	187	T1 Terrace	Navo clay loam
41DN148	Prehistoric	Elm Fork	178	Floodplain	Frio silty clay
41DN149	Prehistoric	Elm Fork	183	T1 Terrace	Altoga silty clay
41DN150	Pre./Hist.	Elm Fork	186	T1 Terrace	Navo clay loam
41DN151	Stg. Str.	Elm Fork	183	T1 Terrace	Altoga silty clay
41DN152	Prehistoric	Pond Creek	191	T1 Terrace	Altoga silty clay
41DN153	Historic	Pond Creek	192	T1 Terrace	Altoga silty clay
41DN154	Historic	Elm Fork	186	T1 Terrace	Altoga silty clay
41DN155	Historic	Elm Fork	189	T2 Terrace	Navo clay loam
41DN156	Pre./Hist.	Elm Fork	186	T1 Terrace	Navo clay loam
41DN157	Hist./Stg. Str.	Elm Fork	191	T2 Terrace	Callisburg fine sandy loam
41DN158	Historic	Elm Fork	177	Floodplain	Frio silty clay
41DN159	Prehistoric	Elm Fork	191	T1 Terrace	Callisburg fine sandy loam
41DN160	Prehistoric	Elm Fork	194	T1 Terrace	Navo clay loam
41DN161	Prehistoric	Elm Fork	197	T1 Terrace	Navo clay loam
41DN162	Prehistoric	Elm Fork	195	T1 Terrace	Callisburg fine sandy loam
41DN163	Prehistoric	Elm Fork	188	T1 Terrace	Altoga silty clay
41DN164	Hist./Stg.Str.	Johnson Branch	195	T2 Terrace	Lindale clay loam
41DN165	Hist./Stg.Str.	Isle du Bois	195	T2 Terrace	Gaslin fine sandy loam
41DN166	Historic	Johnson Branch	189	Upland	Callisburg Soils
41DN167	Hist./Stg.Str.	Johnson Branch	201	Upland	Navo clay loam
41DN168	Historic	Isle du Bois	195	Upland	Gaslin fine sandy loam
41DN169	Pre./Hist.	Isle du Bois	182	T1 Terrace	Bastrop fine sandy loam
41DN170	Historic	Isle du Bois	181	T1 Terrace	Gowen clay loam
41DN171	Hist./Stg.Str.	Sand Branch	192	T2 Terrace	Gaslin fine sandy loam
41DN172	Hist./Stg.Str.	Walnut Branch	186	T1 Terrace	Callisburg fine sandy loam
41DN173	Prehistoric	Isle du Bois	177	T1 Terrace	Konsil fine sandy loam
41DN174	Hist./Stg.Str.	Walnut Branch	186	T1 Terrace	Callisburg Soils
41DN175	Prehistoric	Isle du Bois	175	T1 Terrace	Kaufman clay
41DN176	Hist./Stg.Str.	Walnut Branch	184	T1 Terrace	Navo clay loam
41DN177	Historic	Isle du Bois	178	T1 Terrace	Gowen clay loam
41DN178	Prehistoric	Isle du Bois	190	T1 Terrace	Navo clay loam
41DN179	Historic	Elm Fork	183	T2 Terrace	Medlin-Sanger silty clay
41DN180	Prehistoric	Sand Branch	188	T2 Terrace	Gowen clay loam
41DN181	Historic	Sand Branch	201	Upland	Gaslin fine sandy loam
41DN182	Historic	Sand Branch	209	Upland	Gaslin fine sandy loam
41DN183	Historic	Sand Branch	200	T2 Terrace	Callisburg fine sandy loam
41DN184	Historic	Sand Branch	198	T1 Terrace	Callisburg fine sandy loam
41DN185	Historic	Sand Branch	207	Upland	Birome-Rayex-Aubrey complex
41DN186	Historic	Sand Branch	203	Upland	Birome-Rayex-Aubrey complex
41DN187	Prehistoric	Isle du Bois	175	Floodplain	Kaufman clay
41DN188	Prehistoric	Isle du Bois	175	Floodplain	Bastrop fine sandy loam
41DN189	Historic	Isle du Bois	186	T2 Terrace	Aledo association
41DN190	Historic	Isle du Bois	186	T1 Terrace	Speck clay loam
41DN191	Hist./Stg.Str.	Isle du Bois	192	T2 Terrace	Navo clay loam
41DN192	Historic	Pond Creek	198	Upland	Sanger clay
41DN193	Hist./Stg.Str.	Pond Creek	198	Upland	Frio silty clay
41DN194	Historic	Isle du Bois	187	T1 Terrace	Navo clay loam
41DN195	Historic	Isle du Bois	184	T1 Terrace	Lindale clay loam
41DN196	Stg. Str.	Isle du Bois	178	Upland	Medlin-Sanger silty clay
41DN197	Prehistoric	Isle du Bois	169	Floodplain	Kaufman clay

Table A2-1. (Cont.)

Site	Type	Drainage	Elevation (m)	Topographic Location	Soil Association
41DN198	Stg. Str.	Isle du Bois	187	Upland	Birome fine sandy loam
41DN199	Prehistoric	Isle du Bois	171	Floodplain	Bunyan fine sandy loam
41DN200	Historic	Isle du Bois	183	Upland	Medlin-Sanger clay
41DN201	Pre./Hist.	Isle du Bois	197	Upland	Silstid loamy fine sand
41DN202	Historic	Isle du Bois	197	Upland	Silstid loamy fine sand
41DN17	Pre./Stg.Str.	Elm Fork	184	T1 Terrace	Wilson clay loam
41DN204	Stg. Str.	Pond Creek	194	Upland	Justin fine sandy loam
41DN205	Historic	Isle du Bois	215	Upland	Silawa loamy fine sand
41DN206	Pre./Stg.Str.	Isle du Bois	184	T1 Terrace	Birome fine sandy loam
41DN207	Prehistoric	Isle du Bois	183	T1 Terrace	Birome-Rayex-Aubrey complex
41DN208	Prehistoric	Isle du Bois	189	T1 Terrace	Birome-Rayex-Aubrey complex
41DN209	Historic	Isle du Bois	187	T1 Terrace	Birome-Rayex-Aubrey complex
41DN210	Prehistoric	Isle du Bois	186	T1 Terrace	Konsil fine sandy loam
41DN211	Prehistoric	Isle du Bois	192	T1 Terrace	Birome-Rayex-Aubrey complex
41DN212	Historic	Isle du Bois	203	Upland	Gasil fine sandy loam
41DN213	Historic	Elm Fork	198	Upland	Aledo association
41DN214	Historic	Elm Fork	191	T1 Terrace	Birome-Rayex-Aubrey complex
41DN215	Historic	Elm Fork	189	T2 Terrace	Navo clay loam
41DN216	Stg. Str.	Elm Fork	180	T1 Terrace	Altoga silty clay
41DN217	Prehistoric	Elm Fork	172	Floodplain	Frio silty clay
41DN218	Historic	Elm Fork	169	Floodplain	Bastrop fine sandy loam
41DN219	Prehistoric	Elm Fork	195	T1 Terrace	Medlin-Sanger clay
41DN220	Historic	Elm Fork	184	T1 Terrace	Justin fine sandy loam
41DN221	Historic	Elm Fork	184	T1 Terrace	Wilson clay loam
41DN222	Historic	Elm Fork	186	T1 Terrace	Altoga silty clay
41DN223	Stg. Str.	Elm Fork	180	T1 Terrace	Altoga silty clay
41DN224	Stg. Str.	Isle du Bois	195	T2 Terrace	Navo clay loam
41DN225	Hist./Stg. Str.	Elm Fork	191	T1 Terrace	Ponder loam
41DN226	Stg. Str.	Elm Fork	203	Upland	Lewisville clay loam
41DN227	Stg. Str.	Sand Branch	195	Upland	Callisburg fine sandy loam
41DN228	Historic	Isle du Bois	184	T1 Terrace	Lindale clay loam
41DN229	Stg. Str.	Isle du Bois	184	T1 Terrace	Konsil fine sandy loam
41DN230	Historic	Isle du Bois	206	Upland	Callisburg fine sandy loam
41DN231	Historic	Elm Fork	197	Upland	Birome-Rayex-Aubrey complex
41DN232	Historic	Elm Fork	191	T1 Terrace	Callisburg fine sandy loam
41DN233	Historic	Isle du Bois	197	Upland	Navo clay loam
41DN234	Historic	Isle du Bois	201	Upland	Birome-Rayex-Aubrey complex
41CO10	Hist./Stg.Str.	Isle du Bois	195	T2 Terrace	Birome-Rayex-Aubrey complex
41CO11	Prehistoric	Isle du Bois	195	T1 Terrace	Silstid loamy fine sand
41CO12	Historic	Isle du Bois	197	T1 Terrace	Konsil loamy fine sand
41CO13	Historic	Isle du Bois	199	T2 Terrace	Crockett fine sandy loam
41CO14	Prehistoric	Isle du Bois	201	T2 Terrace	Aubrey fine sandy loam
41CO15	Historic	Isle du Bois	199	T2 Terrace	Heaton loamy fine sand
41CO16	Historic	Isle du Bois	193	T1 Terrace	Birome stony fine sandy loam
41CO17	Prehistoric	Isle du Bois	187	T1 Terrace	Aubrey fine sandy loam
41CO18	Pre./Hist.	Isle du Bois	190	T1 Terrace	Callisburg fine sandy loam
41CO19	Prehistoric	Isle du Bois	184	T1 Terrace	Aubrey fine sandy loam
41CO20	Prehistoric	Isle du Bois	181	Floodplain	Konsil fine sandy loam
41CO21	Historic	Buck Creek	183	T1 Terrace	Gowen clay loam
41CO22	Historic	Pierce Spring Branch	195	T1 Terrace	Gasil fine sandy loam
41CO23	Prehistoric	Pierce Spring Branch	186	T2 Terrace	Gladewater clay
41CO24	Prehistoric	Pierce Spring Branch	187	T1 Terrace	Hensley fine sandy loam
41CO25	Historic	Pierce Spring Branch	188	T1 Terrace	Gladewater clay
41CO26	Prehistoric	Buck Creek	187	T1 Terrace	Aubrey fine sandy loam
41CO27	Historic	Isle du Bois	192	T1 Terrace	Aubrey fine sandy loam

Table A2-1. (Cont.)

Site	Type	Drainage	Elevation (m)	Topographic Location	Soil Association
41CO28	Prehistoric	Isle du Bois	186	T1 Terrace	Aubrey fine sandy loam
41CO29	Prehistoric	Isle du Bois	189	T1 Terrace	Aubrey fine sandy loam
41CO30	Historic	Isle du Bois	195	T1 Terrace	Normangee clay loam
41CO31	Historic	Buck Creek	192	T1 Terrace	Normangee clay loam
41CO32	Historic	Isle du Bois	194	T1 Terrace	Aubrey fine sandy loam
41CO33	Historic	Isle du Bois	196	T1 Terrace	Aubrey fine sandy loam
41CO34	Historic	Isle du Bois	183	T1 Terrace	Aubrey fine sandy loam
41CO35	Prehistoric	Isle du Bois	177	Floodplain	Gladewater clay loam
41CO36	Historic	Wolf Creek	189	T2 Terrace	Callisburg fine sandy loam
41CO37	Historic	Indian Creek	189	T2 Terrace	Crockett fine sandy loam
41CO38	Historic	Wolf Creek	190	T1 Terrace	Callisburg fine sandy loam
41CO39	Historic	Wolf Creek	186	T1 Terrace	Callisburg fine sandy loam
41CO40	Historic	Indian Creek	192	T2 Terrace	Gasil loamy fine sand
41CO41	Historic	Indian Creek	198	T1 Terrace	Konsil fine sandy loam
41CO42	Historic	Isle du Bois	192	T1 Terrace	Callisburg fine sandy loam
41CO43	Historic	Isle du Bois	195	Upland	Callisburg fine sandy loam
41CO44	Historic	Indian Creek	195	T1 Terrace	Callisburg fine sandy loam
41CO45	Prehistoric	Indian Creek	191	T1 Terrace	Callisburg fine sandy loam
41CO46	Historic	Indian Creek	195	Upland	Callisburg fine sandy loam
41CO47	Pre./Hist.	Indian Creek	189	T1 Terrace	Callisburg fine sandy loam
41CO48	Prehistoric	Indian Creek	189	T1 Terrace	Pulexas fine sandy loam
41CO49	Pre./Hist.	Indian Creek	195	Upland	Birome stony fine sandy loam
41CO50	Prehistoric	Indian Creek	192	Upland	Birome stony fine sandy loam
41CO51	Historic	Indian Creek	195	T1 Terrace	Callisburg fine sandy loam
41CO52	Prehistoric	Isle du Bois	198	Upland	Aubrey fine sandy loam
41CO53	Prehistoric	Isle du Bois	192	T1 Terrace	Callisburg fine sandy loam
41CO54	Prehistoric	Isle du Bois	188	T1 Terrace	Gladewater clay
41CO55	Pre./Hist.	Isle du Bois	193	T1 Terrace	Aubrey fine sandy loam
41CO56	Prehistoric	Isle du Bois	198	Upland	Heaton loamy fine sand
41CO57	Prehistoric	Isle du Bois	184	T1 Terrace	Gasil fine sandy loam
41CO58	Historic	Isle du Bois	192	T1 Terrace	Callisburg fine sandy loam
41CO59	Historic	Isle du Bois	194	T1 Terrace	Callisburg fine sandy loam
41CO60	Prehistoric	Isle du Bois	182	Floodplain	Gowen clay loam
41CO61	Historic	Isle du Bois	190	T1 Terrace	Callisburg fine sandy loam
41CO62	Historic	Isle du Bois	195	Upland	Aubrey fine sandy loam
41CO63	Historic	Indian Creek	198	Upland	Callisburg fine sandy loam
41CO64	Historic	Indian Creek	186	Floodplain	Heaton loamy fine sand
41CO65	Historic	Isle du Bois	198	Upland	Aubrey fine sandy loam
41CO66	Historic	Indian Creek	186	T1 Terrace	Callisburg fine sandy loam
41CO67	Prehistoric	Isle du Bois	183	T1 Terrace	Gasil fine sandy loam
41CO68	Historic	Indian Creek	189	T1 Terrace	Callisburg fine sandy loam
41CO69	Historic	Indian Creek	195	T2 Terrace	Gasil loamy fine sand
41CO70	Prehistoric	Indian Creek	187	T1 Terrace	Gasil fine sandy loam
41CO71	Prehistoric	Isle du Bois	186	T1 Terrace	Heaton loamy fine sand
41CO72	Prehistoric	Isle du Bois	186	T1 Terrace	Aubrey fine sandy loam
41CO73	Pre./Hist.	Isle du Bois	183	Floodplain	Gladewater clay
41CO74	Prehistoric	Isle du Bois	186	T1 Terrace	Heaton loamy fine sand
41CO75	Historic	Isle du Bois	186	T1 Terrace	Aubrey fine sandy loam
41CO76	Prehistoric	Indian Creek	191	T1 Terrace	Callisburg fine sandy loam
41CO77	Historic	Spring Creek	197	Upland	Frio clay loam
41CO78	Historic	Pecan Creek	199	T1 Terrace	Lewisville clay loam
41CO79	Prehistoric	Lick Creek	192	T1 Terrace	Konsil fine sandy loam
41CO80	Historic	Elm Fork	198	T1 Terrace	Aubrey fine sandy loam
41CO81	Historic	Elm Fork	194	T1 Terrace	Aubrey fine sandy loam
41CO82	Historic	Elm Fork	192	T1 Terrace	Sanger stony clay
41CO83	Historic	Elm Fork	195	T1 Terrace	Sanger stony clay
41CO84	Historic	Elm Fork	204	T1 Terrace	Aubrey fine sandy loam
41CO85	Prehistoric	Elm Fork	187	Floodplain	Lewisville clay loam
41CO86	Historic	Elm Fork	183	Floodplain	Tinn clay
41CO87	Historic	Elm Fork	198	T1 Terrace	Normangee clay loam
41CO88	Historic	Elm Fork	190	T1 Terrace	Tinn clay
41CO89	Prehistoric	Wolf Creek	195	Upland	Konsil fine sandy loam
41CO90	Prehistoric	Wolf Creek	195	Upland	Konsil fine sandy loam
41CO91	Prehistoric	Wolf Creek	198	Upland	Siltstid loamy fine sand

Table A2-1. (Cont.)

Site	Type	Drainage	Elevation (m)	Topographic Location	Soil Association
41CO92	Historic	Wolf Creek	195	Upland	Silstid loamy fine sand
41CO93	Prehistoric	Wolf Creek	195	Upland	Konsil fine sandy loam
41CO94	Prehistoric	Wolf Creek	194	Upland	Callisburg fine sandy loam
41CO95	Prehistoric	Wolf Creek	192	Upland	Konsil fine sandy loam
41CO96	Historic	Wolf Creek	195	Upland	Konsil fine sandy loam
41CO97	Prehistoric	Wolf Creek	186	T1 Terrace	Konsil fine sandy loam
41CO98	Historic	Wolf Creek	192	Upland	Konsil fine sandy loam
41CO99	Prehistoric	Wolf Creek	186	T1 Terrace	Konsil fine sandy loam
41CO100	Prehistoric	Elm Fork	207	Upland	Aubrey fine sandy loam
41CO101	Historic	Elm Fork	190	T1 Terrace	Aubrey fine sandy loam
41CO102	Historic	Elm Fork	207	T1 Terrace	Wilson clay loam
41CO103	Historic	Elm Fork	183	Floodplain	Aubrey fine sandy loam
41CO104	Historic	Elm Fork	192	T1 Terrace	Lewisville clay loam
41CO105	Stg. Str.	Elm Fork	195	T1 Terrace	Wilson clay loam
41CO106	Prehistoric	Indian Creek	194	Upland	Gasil fine sandy loam
41CO107	Historic	Walnut Branch	191	Upland	Callisburg fine sandy loam
41CO108	Hist./Stg. Str.	Isle du Bois	186	T1 Terrace	Normangee clay loam
41CO109	Historic	Isle du Bois	194	T2 Terrace	Aubrey fine sandy loam
41CO110	Historic	Walnut Branch	195	Upland	Wilson clay loam
41CO111	Stg. Str.	Walnut Branch	195	Upland	Callisburg fine sandy loam
41CO112	Historic	Walnut Branch	190	T1 Terrace	Konsil fine sandy loam
41CO113	Historic	Walnut Branch	194	T2 Terrace	Crockett fine sandy loam
41CO114	Historic	Walnut Branch	195	Upland	Sanger stony clay
41CO115	Historic	Walnut Branch	186	T1 Terrace	Crosstell fine sandy loam
41CO116	Historic	Walnut Branch	183	T1 Terrace	Aubrey fine sandy loam
41CO117	Historic	Walnut Branch	183	T1 Terrace	Callisburg fine sandy loam
41CO118	Historic	Walnut Branch	195	T2 Terrace	Crockett fine sandy loam
41CO119	Historic	Walnut Branch	192	Upland	Callisburg fine sandy loam
41CO120	Historic	Walnut Branch	192	T1 Terrace	Gasil fine sandy loam
41CO121	Historic	Wolf Creek	189	T1 Terrace	Aubrey fine sandy loam
41CO122	Historic	Wolf Creek	197	T2 Terrace	Gasil loamy fine sand
41CO123	Pre./Hist.	Wolf Creek	195	T2 Terrace	Birome stony fine sand
41CO124	Prehistoric	Wolf Creek	198	Upland	Birome stony fine sand
41CO125	Prehistoric	Wolf Creek	189	T2 Terrace	Heaton loamy fine sand
41CO126	Pre./Hist.	Wolf Creek	192	T2 Terrace	Konsil fine sandy loam
41CO127	Historic	Wolf Creek	189	Upland	Gasil loamy fine sand
41CO128	Historic	Walnut Branch	198	Upland	Callisburg fine sandy loam
41CO129	Pre./Hist.	Wolf Creek	204	Upland	Birome stony fine sand
41CO130	Historic	Johnson Branch	194	T1 Terrace	Birome stony fine sand
41CO131	Historic	Indian Creek	198	Upland	Aubrey fine sandy loam
41CO132	Historic	Wolf Creek	184	T1 Terrace	Aubrey fine sandy loam
41CO133	Historic	Isle du Bois	178	T1 Terrace	Aubrey fine sandy loam
41CO134	Prehistoric	Spring Creek	184	Floodplain	Frio clay loam
41CO135	Historic	Elm Fork	198	T1 Terrace	Wilson/Lewisville clay loam
41CO136	Stg. Str.	Spring Creek	197	T1 Terrace	Malotterre-Aledo complex (gravelly clay loam)
41CO137	Historic	Pecan Creek	200	T1 Terrace	Wilson clay loam
41CO138	Historic	Elm Fork	192	Floodplain	Tinn soils
41CO139	Prehistoric	Elm Fork	196	Floodplain	Tinn clay
41GS39	Historic	Buck Creek	192	T1 Terrace	Normangee clay loam
41GS40	Stg. Str.	Buck Creek	192	T1 Terrace	Crockett loam
41GS41	Historic	Buck Creek	198	T2 Terrace	Wilson silty clay loam
41GS42	Stg. Str.	Buck Creek	195	T1 Terrace	Normangee clay loam
41GS43	Stg. Str.	Buck Creek	192	T1 Terrace	Crockett loam
41GS44	Historic	Buck Creek	192	T1 Terrace	Crockett loam
41GS45	Stg. Str.	Buck Creek	192	T1 Terrace	Crockett loam
41GS46	Stg. Str.	Buck Creek	195	T1 Terrace	Crockett loam
41GS47	Historic	Buck Creek	192	T1 Terrace	Crockett loam
41GS48	Prehistoric	Buck Creek	189	T1 Terrace	Crosstell fine sandy loam
41GS49	Stg. Str.	Buck Creek	192	T1 Terrace	Crosstell fine sandy loam
41GS50	Historic	Pierce Spring Branch	195	T1 Terrace	Crockett loam
41GS51	Stg. Str.	Pierce Spring Branch	198	T1 Terrace	Crockett loam

Table A2-1. (Cont.)

Site	Type	Drainage	Elevation (m)	Topographic Location	Soil Association
41GS52	Historic	Pierce Spring Branch	197	T1 Terrace	Crockett loam
41GS53	Historic	Pierce Spring Branch	195	T1 Terrace	Mabank loam
41GS54	Historic	Pierce Spring Branch	192	T1 Terrace	Normangee clay loam
41GS55	Historic	Buck Creek	195	T2 Terrace	Crockett loam
41GS56	Stg. Str.	Buck Creek	195	T2 Terrace	Crockett loam
41GS57	Stg. Str.	Buck Creek	195	T2 Terrace	Normangee clay loam
41GS58	Historic	Buck Creek	194	T1 Terrace	Mabank loam
41GS59	Historic	Buck Creek	192	T1 Terrace	Wilson silty clay loam
41GS60	Pre./Hist.	Buck Creek	198	T1 Terrace	Normangee clay loam
41GS61	Historic	Buck Creek	195	T1 Terrace	Vertel clay
41GS62	Prehistoric	Buck Creek	192	T1 Terrace	Wilson silty clay loam
41GS63	Pre./Stg. Str.	Buck Creek	194	Upland	Crockett loam
41GS64	Prehistoric	Buck Creek	192	T1 Terrace	Konsil loamy fine sand
41GS65	Pre./Hist.	Buck Creek	192	T1 Terrace	Gasil loamy fine sand
41GS66	Historic	Buck Creek	194	T1 Terrace	Gasil loamy fine sand
41GS67	Prehistoric	Buck Creek	195	T1 Terrace	Bunyan fine sandy loam
41GS68	Pre./Hist.	Buck Creek	197	T1 Terrace	Aubrey fine sandy loam
41GS69	Pre./Hist.	Buck Creek	195	T1 Terrace	Aubrey fine sandy loam
41GS70	Historic	Buck Creek	186	Floodplain	Aubrey fine sandy loam
41GS71	Pre./Hist.	Buck Creek	197	T1 Terrace	Aubrey fine sandy loam
41GS72	Pre./Hist.	Buck Creek	198	T1 Terrace	Aubrey fine sandy loam
41GS73	Prehistoric	Buck Creek	189	T1 Terrace	Bunyan fine sandy loam
41GS74	Historic	Isle de Bois	195	T2 Terrace	Normangee clay loam
41GS75	Stg. Str.	Isle de Bois	198	T1 Terrace	Crockett loam
41GS76	Historic	Isle de Bois	198	T1 Terrace	Callisburg fine sandy loam
41GS77	Historic	Isle de Bois	195	T1 Terrace	Callisburg fine sandy loam
41GS78	Historic	Isle de Bois	200	T1 Terrace	Callisburg fine sandy loam
41GS79	Stg. Str.	Isle de Bois	195	Upland	Crosstell fine sandy loam
41GS80	Historic	Jordan Creek	198	Upland	Crosstell fine sandy loam
41GS81	Prehistoric	Jordan Creek	192	Upland	Konsil fine sandy loam
41GS82	Historic	Jordan Creek	192	Upland	Aubrey fine sandy loam
41GS83	Historic	Jordan Creek	195	Upland	Aubrey fine sandy loam
41GS84	Historic	Jordan Creek	197	T1 Terrace	Konsil fine sandy loam
41GS85	Prehistoric	Spring Creek	197	T1 Terrace	Bunyan fine sandy loam
41GS86	Historic	Spring Creek	201	T1 Terrace	Callisburg fine sandy loam
41GS87	Historic	Hog Creek	193	T1 Terrace	Normangee clay loam
41GS88	Prehistoric	Hog Creek	192	T1 Terrace	Normangee clay loam
41GS89	Historic	Range Creek	195	T1 Terrace	Crosstell fine sandy loam
41GS90	Prehistoric	Range Creek	204	Upland	Crockett Loam
41GS91	Historic	Range Creek	205	Upland	Crockett loam
41GS92	Prehistoric	Range Creek	196	T1 Terrace	Wilson silty clay loam
41GS93	Pre./Hist.	Buck Creek	194	T1 Terrace	Crockett loam
41GS94	Prehistoric	Buck Creek	192	Floodplain	Bunyan fine sandy loam
41GS95	Historic	Buck Creek	195	T1 Terrace	Normangee clay loam
41GS96	Prehistoric	Buck Creek	192	Floodplain	Wilson silty clay loam
41GS97	Prehistoric	Buck Creek	198	T1 Terrace	Vertel clay
41GS98	Historic	Isle de Bois	194	T1 Terrace	Crockett loam
41GS99	Historic	Buck Creek	189	T1 Terrace	Aubrey fine sandy loam
41GS100	Historic	Buck Creek	198	Upland	Crockett loam
41GS101	Historic	Buck Creek	192	T1 Terrace	Normangee clay loam
41GS102	Prehistoric	Buck Creek	189	T1 Terrace	Crockett loam
41GS103	Historic	Isle de Bois	192	T1 Terrace	Aubrey fine sandy loam
41GS104	Historic	Spring Branch	195	T1 Terrace	Crosstell fine sandy loam

Table A2-2.
Lake Ray Roberts: Site functions and dates of occupation

Site	Area (hectare)	Site Type	Archaic			Neo-American			Historic			
			Middle	Late	Early	Late	Early	Late	1800- 1850	1850- 1875	1875- 1935	1935- 1980
41DN76	0.37	Farmstead								+	+	?
41DN77	0.45	Farmstead								+	+	
41DN78	1.21	Farmstead								+	?	
41DN79	0.35	Macroband seasonal base camp						+				
41DN80	0.41	Farmstead						?			+	
41DN81	0.51	Macroband seasonal camp						?				
41DN82	0.50	Macroband seasonal base camp						+				
41DN83	0.49	Farmstead						?				
41DN84	0.09	Musselling station								?		
41DN85	1.14	Farmstead									+	+
41DN86	0.11	Microband hunting camp						+				
41DN87	0.94	Farmstead									+	+
41DN88	0.04	Hunting station						?				
41DN89	0.18	Dump									+	
41DN90	0.21	Microband seasonal camp						+				
41DN91	2.90	Town								+	+	+
41DN92	0.20	Dump								+	+	
41DN93	0.13	Lithic procurement site										
41DN94	0.001	Bridge										
41DN95	0.70	Farmstead								+	+	+
41DN96	0.35	Farmstead								+	+	+
41DN97	0.025	Cemetery								+	+	+
41DN98	0.20	Farmstead								+	+	+
41DN99	0.35	Farmstead								+	+	+
41DN100	0.23	Flake								+	+	+
41DN101	0.62	Farmstead								+	+	+
41DN102	0.17	Lithic procurement site										

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic		Neo-American		Historic						
			Middle	Late	Early	Late	Indian	1800- 1850	1850- 1875	1875- 1935	1935- 1980		
41DN99	2.60	Microband seasonal camp											
41DN100	0.18	Farmstead		+		+						+	
41DN101	0.13	Macroband seasonal base camp		+									
41DN102	3.02	Macroband seasonal base camp	+			+							
41DN103	0.49	Microband musselling camp		+									
41DN104	2.06	Farmstead											+
41DN105	0.73	Farmstead								+		+	
41DN106	0.10	Farmstead										?	
41DN107	2.08	Farmstead										?	
41DN108	0.80	Farmstead								+		+	
41DN109	0.40	Farmstead											+
41DN110	0.12	Farmstead										+	
41DN111	0.53	Farmstead											?
41DN112	0.61	Macroband seasonal base camp				+							+
41DN113	0.80	Farmstead										+	
41DN114	0.41	Farmstead										+	
41DN115	0.32	Lithic procurement site		?		?							
41DN116	0.09	Microband seasonal camp		?		?							
41DN117	0.43	Farmstead										+	
41DN118	0.98	Cemetery								+		+	+
41DN119	1.61	Farmstead										+	+
41DN120	0.15	Farmstead										+	
41DN121	0.74	Farmstead										+	
41DN122	0.36	Outbuilding										+	
41DN123	0.40	Farmstead										?	
41DN124	0.19	Farmstead										+	+
41DN125	0.013	Farmstead										+	+
41DN126	0.18	Farmstead										+	+
41DN127	0.06	School										+	
41DN127	0.61	Farmstead										?	+

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic			Neo-American			Historic			
			Middle	Late	Early	Late	Early	Indian	1800- 1850	1850- 1875	1875- 1935	1935- 1980
41DN128	0.49	Farmstead									?	+
41DN129	0.49	Farmstead									?	+
41DN130	0.83	Farmstead									+	
41DN131	0.40	Farmstead									+	+
41DN132	0.19	Farmstead									+	
41DN133	0.12	Farmstead									+	+
41DN134	0.53	Farmstead									+	
41DN135	0.05	Farmstead									+	
41DN136	0.83	Farmstead									?	
41DN137	0.02	Outbuilding										+
41DN138	0.28	Farmstead									+	+
41DN139	0.007	Outbuilding									+	+
41DN140	0.17	Farmstead									+	+
41DN141	0.93	Farmstead									?	
41DN142	2.50	Farmstead									?	
41DN143	0.57	Farmstead									?	
41DN144	1.07	Farmstead									?	+
41DN145	0.21	Farmstead									?	+
41DN146	0.004	Outbuilding									?	+
41DN147	0.07	Farmstead									+	
41DN148	0.02	Microband seasonal camp									+	
41DN149	0.14	Microband hunting camp									?	
41DN150	0.36	Macroband seasonal base camp									?	
											+	
41DN151	0.63	Farmstead									?	+
41DN152	0.50	Microband seasonal camp									?	
41DN153	0.34	Farmstead									+	
41DN154	0.05	Cemetery									+	+
41DN155	0.22	Farmstead									+	+
41DN156	0.24	Microband seasonal camp									+	

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic		Neo-American		Historic						
			Middle	Late	Early	Late	Indian	1800- 1850	1850- 1875	1875- 1935	1935- 1980		
41DN157	0.25	Farmstead										+	+
41DN158	0.03	Bridge										?	+
41DN159	0.31	Macroband seasonal base camp											
41DN160	0.07	Lithic procurement site											
41DN161	0.25	Lithic procurement site											
41DN162	0.11	Seasonal Camp											
41DN163	0.21	Seasonal Camp											
41DN164	0.34	Farmstead											
41DN165	0.26	Farmstead										+	?
41DN166	0.52	Farmstead										+	+
41DN167	1.10	Farmstead										+	+
41DN168	0.07	Farmstead											+
41DN169	0.02	Hunting station											
	0.02	Farmstead										?	
41DN170	0.11	Farmstead											+
41DN171	1.43	Farmstead										+	?
41DN172	0.50	Farmstead										+	+
41DN173	0.16	Microband seasonal camp											+
41DN174	1.08	Farmstead					+						+
41DN175	0.36	Microband seasonal base camp											
41DN176	0.60	Farmstead										+	+
41DN177		Well											
41DN178	0.23	Lithic procurement site											+
41DN179	0.31	Dump										+	+
41DN180	0.01	Hunting station											
41DN181	0.32	Farmstead											+
41DN182	0.04	Farmstead										+	+
41DN183	0.37	Farmstead										+	+
41DN184	0.18	Farmstead										?	+

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic		Neo-American		Historic				
			Middle	Late	Early	Late	Indian	1800- 1850	1850- 1875	1875- 1935	1935- 1980
41DN185	0.41	Farmstead								+	
41DN186	0.15	Farmstead								+	
41DN187	0.13	Macroband seasonal base camp									
41DN188	0.56	Macroband seasonal base camp									
41DN189	0.005	Dump								+	
41DN190	0.50	Farmstead								+	+
41DN191	0.41	Farmstead								?	+
41DN192	0.64	Dump								?	+
41DN193	0.41	Farmstead									+
41DN194	0.13	Farmstead								+	+
41DN195	0.08	Farmstead								+	+
41DN196	0.04	Farmstead									+
41DN197	0.06	Microband musselling camp		+		?					
41DN198	1.17	Farmstead								+	
41DN199	0.06	Microband musselling camp		?							
41DN200	0.09	Farmstead								+	
41DN201		Flake		?							
	0.52	Farmstead								+	
41DN202	0.17	Farmstead								+	
41DN17	0.61	Macroband seasonal base camp		?		+	+				
	1.72	Farmstead								+	+
41DN204	0.27	Farmstead								+	+
41DN205	0.58	Dump							?		?
41DN206		Flake		?			?				
	0.01	Bridge							?		+
41DN207	0.38	Lithic procurement site									
41DN208	0.39	Lithic procurement site		+		+				+	
41DN209	0.005	Farmstead									
41DN210	0.19	Microband seasonal camp				?					
41DN211	0.17	Lithic procurement site		?		?				?	

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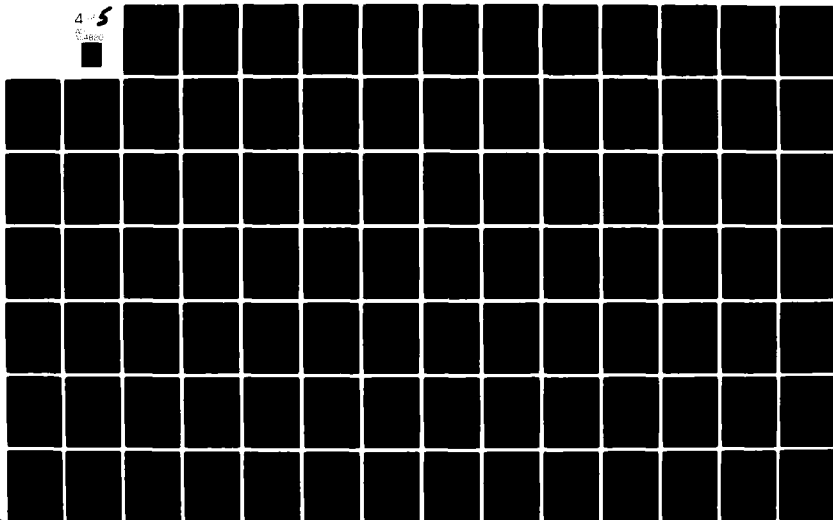
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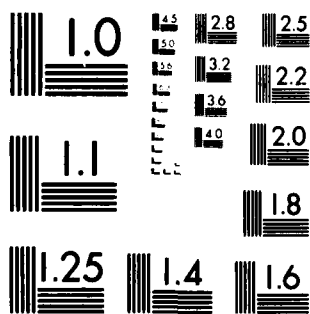
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Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic		Neo-American		Historic					
			Middle	Late	Early	Late	Indian	1800- 1850	1850- 1875	1875- 1935	1935- 1980	
41DN212		Gary point									+	
41DN213	0.08	Farmstead										+
41DN214	0.32	Farmstead										+
41DN215	0.003	Dump										+
41DN216	0.005	Cemetery									+	?
41DN217	1.35	Farmstead										+
41DN218	0.77	Microband seasonal camp										+
41DN219	0.04	Dump										?
41DN220	0.015	Lithic procurement site										?
41DN221		Farmstead										?
41DN222		Dump										?
41DN223	0.19	Farmstead										?
41DN224	0.36	Farmstead										?
41DN225	0.15	Farmstead										?
	0.18	Cemetery										?
41DN226	0.19	Farmstead										?
41DN227	0.61	Farmstead										?
41DN228	0.30	Farmstead										?
41DN229	0.13	Farmstead										?
41DN230	0.52	Farmstead										?
41DN231	0.01	Dump										?
41DN232	0.004	Cemetery ?										?
41DN233	0.04	Farmstead										?
41DN234	0.31	Farmstead										?
41CO10	0.32	Farmstead										?
41CO11	2.32	Microband seasonal camp										?
41CO12	0.22	Farmstead										?
41CO13		Well										?

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic		Neo-American		Historic					
			Middle	Late	Early	Late	Indian	1800- 1850	1850- 1875	1875- 1935	1935- 1980	
41CO14	0.30	Lithic procurement site										
41CO15	0.18	Farmstead								+		
41CO16	0.16	Farmstead								+		
41CO17	0.36	Macroband seasonal camp			+							
41CO18	0.20	Macroband seasonal base camp			+							
	0.20	Dump										
41CO19	0.01	Microband seasonal camp		?								
41CO20	0.78	Hunting station		?								
41CO21	0.38	Church										
41CO22	0.45	Farmstead										
41CO23	0.06	Hunting station		?								+
41CO24	0.03	Hunting station										?
41CO25	0.23	Farmstead										
41CO26	0.02	Hunting station		?						+		
41CO27	0.11	Farmstead										
41CO28	0.16	Microband seasonal camp		?								
41CO29	0.43	Macroband seasonal base camp		+								
41CO30	0.21	Farmstead										+
41CO31	0.13	Farmstead							?			
41CO32	0.26	Farmstead										+
41CO33	0.16	Farmstead								?		
41CO34	0.21	Farmstead										+
41CO35	0.01	Microband seasonal camp		?								
41CO36	0.23	Farmstead										
41CO37	0.99	Farmstead								?		
41CO38	0.12	Farmstead								?		
41CO39	1.49	Farmstead								?		
41CO40	0.10	Farmstead								?		
41CO41	0.12	Farmstead								?		
41CO42	0.42	Farmstead							?			+

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic		Neo-American		Historic				
			Middle	Late	Early	Late	Indian 1850	1850- 1875	1875- 1935	1935- 1980	
41CO43	0.18	Farmstead									+
41CO44	0.09	Farmstead									+
41CO45	0.02	Microband seasonal camp		+		?					
41CO46	0.10	Farmstead						?			
41CO47	0.21	Hunting station	?		?						
	0.21	Farmstead									
41CO48	0.21	Lithic procurement site									+
41CO49	0.19	Microband seasonal camp									
	0.19	Farmstead									
41CO50	0.27	Microband hunting camp									
41CO51		Farmstead									
41CO52	0.01	Hunting station	?		?				?		
41CO53	0.19	Lithic procurement site									
41CO54	0.01	Microband seasonal camp									
41CO55	0.48	Microband seasonal camp			?						
	0.48	Dump									
41CO56	0.03	Microband hunting camp	?								
41CO57	0.01	Microband hunting camp		+		+					
41CO58	3.64	Farmstead		+							
41CO59	0.02	Farmstead									
41CO60	0.01	Microband seasonal camp									
41CO61	0.15	Farmstead									
41CO62	0.39	Farmstead									
41CO63	0.21	Farmstead									
41CO64	0.002	Farmstead									
41CO65	0.16	Farmstead									
41CO66	0.57	Farmstead									
41CO67	0.02	Macroband seasonal base camp									
41CO68	0.30	Farmstead									
41CO69	0.13	Cemetery									

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic		Neo-American		Historic					
			Middle	Late	Early	Late	Indian	1800- 1850	1850- 1875	1875- 1935	1935- 1980	
41CO70	0.24	Microband seasonal camp										
41CO71	0.44	Macroband seasonal base camp										
41CO72	0.22	Microband hunting camp	?		?							
41CO73	0.10	Microband hunting camp	+									
41CO74	0.002	Microband seasonal camp										
41CO75	0.22	Cemetery						+		+		+
41CO76	0.06	Hunting station										
41CO77	0.17	Farmstead								?		
41CO78	0.84	Farmstead								+		+
41CO79	0.002	Microband seasonal camp										
41CO80	0.20	Farmstead										+
41CO81	0.18	Farmstead										
41CO82	0.42	Farmstead										
41CO83	0.05	Farmstead										
41CO84	0.70	Farmstead										
41CO85	0.14	Microband seasonal camp										?
41CO86	0.50	Bridge								+		
41CO87	0.23	Farmstead										?
41CO88	0.14	Dump										+
41CO89	0.057	Lithic procurement site										+
41CO90	0.07	Lithic procurement site										?
41CO91	0.02	Microband hunting camp										
41CO92	0.18	Dump										
41CO93	0.13	Microband seasonal camp										
41CO94	0.22	Macroband seasonal base camp										
41CO95	0.41	Macroband seasonal base camp										
41CO96	0.31	Farmstead	?		?	+				?		
41CO97	0.45	Microband hunting camp										
41CO98	0.31	Dump			+							
41CO99	0.33	Microband seasonal camp										

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic		Neo-American		Historic					
			Middle	Late	Early	Late	Indian	1800- 1850	1850- 1875	1875- 1935	1935- 1980	
41CO100	0.003	Hunting station										
41CO101	0.09	Farmstead									?	
41CO102	0.0033	Cemetery						+			+	+
41CO103	0.41	Farmstead									?	
41CO104	0.15	Cemetery/Farmstead									+	
41CO105	0.58	Farmstead						?			+	+
41CO106	0.11	Microband hunting camp										
41CO107	0.63	Cemetery									+	+
41CO108	0.27	Farmstead										
41CO109	0.11	Dump									?	+
41CO110	0.96	Farmstead									+	+
41CO111	0.50	Farmstead						+				
41CO112	0.04	Outbuilding										
41CO113	0.03	Farmstead									?	+
41CO114	0.10	Farmstead									+	+
41CO115	0.06	Farmstead									?	
41CO116	0.06	Dump									?	
41CO117	0.22	Farmstead									?	
41CO118	0.34	Farmstead									?	
41CO119	0.27	School/Church									?	
41CO120	1.19	Farmstead									?	
41CO121	0.26	Farmstead									+	
41CO122	0.02	Dump						?			+	
41CO123	0.008	Seasonal Camp										
	0.22	Farmstead										
41CO124	0.77	Macroband seasonal base camp										
41CO125	0.32	Microband hunting camp										+
41CO126	0.20	Macroband seasonal base camp										
	0.20	Dump										

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic		Neo-American		Indian		Historic	
			Middle	Late	Early	Late	1800- 1850	1850- 1875	1875- 1935	1935- 1980
41CO127	0.14	Dump							?	
41CO128	0.16	Farmstead							?	
41CO129		Flake								
41CO130	0.27	Farmstead							?	
41CO131	0.16	Farmstead							+	
41CO132	0.08	Farmstead							+	
41CO133	0.16	Dump							+	
41CO134	0.08	Dump							+	
	0.09	Microband musselling camp				?				
	0.09	Dump							?	
41CO135	1.70	Cemetery						+	+	
41CO136	0.01	Outbuilding							+	
41CO137	0.05	Dump						+	+	
42CO138	0.08	Bridge							+	
41CO139	0.32	Microband musselling camp								
41GS39	0.82	Farmstead		?					?	?
41GS40	0.67	Farmstead							?	?
41GS41	0.12	Farmstead							?	?
41GS42	0.42	Farmstead							?	?
41GS43	0.56	Farmstead							?	
41GS44	0.12	Dump								
41GS45	0.38	Farmstead							+	
41GS46	0.71	Farmstead							?	
41GS47	0.65	Dump							+	
41GS48	0.16	Macroband seasonal base camp								
41GS49	0.15	Farmstead							?	
41GS50	0.30	Farmstead							?	
41GS51	1.08	Farmstead							+	
41GS52	0.42	Farmstead							+	
41GS53	0.11	Farmstead							+	

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic		Neo-American		Historic				
			Middle	Late	Early	Late	Indian	1800- 1850	1850- 1875	1875- 1935	1935- 1980
41GS54	0.10	Dump									?
41GS55	0.17	Dump								+	
41GS56	0.42	Farmstead								?	?
41GS57	0.49	Outbuildings								?	?
41GS58	0.30	Dump								+	
41GS59	0.26	Farmstead								+	
41GS60	0.56	Hunting station			+						
	0.56	Dump									
41GS61	0.52	Dump									?
41GS62	0.29	Microband hunting camp									
41GS63	0.05	Hunting station									
	0.08	Farmstead								?	
41GS64	0.26	Macroband seasonal base camp									
41GS65	0.17	Macroband seasonal base camp	+								
	0.17	Dump								?	?
41GS66	0.45	Cemetery								+	
41GS67	0.13	Microband seasonal camp									
41GS68	0.20	Microband seasonal camp									
	0.20	Dump			+					?	?
41GS69	1.53	Microband seasonal camp									
	1.53	Dump									
41GS70	0.05	Dump							?	+	+
41GS71	0.14	Microband seasonal camp								+	
	0.14	Dump							?	?	
41GS72	0.41	Macroband seasonal base camp									
	0.41	Dump									
41GS73	0.27	Macroband seasonal base camp								+	
41GS74	0.88	Farmstead			+						+
41GS75	0.48	Farmstead									?

Table A2-2. (Cont.)

Site	Area (hectare)	Site Type	Archaic			Neo-American		Historic				
			Middle	Late	Early	Early	Late	Indian	1800- 1850	1850- 1875	1875- 1935	1935- 1980
41GS76	0.02	Dump									+	
41GS77		Well									?	
41GS78	0.02	Cemetery									+	
41GS79	0.48	Farmstead									?	
41GS80	0.35	Farmstead									?	
41GS81	0.04	Hunting station										
41GS82	0.29	Dump									?	?
41GS83	0.32	Dump									?	?
41GS84	0.33	Farmstead									?	?
41GS85	0.21	Microband seasonal camp										
41GS86	0.07	Cemetery				+				+	+	+
41GS87	0.26	Farmstead										
41GS88	0.17	Microband seasonal camp					+					
41GS89	0.32	Farmstead									+	
41GS90	0.96	Macroband seasonal base camp										
41GS91	0.11	Dump				+						
41GS92	0.11	Microband seasonal camp									+	
41GS93	0.07	Macroband seasonal base camp	+									
41GS94	0.01	Collecting station										
41GS95	0.15	Farmstead									?	
41GS96	0.03	Hunting station										
41GS97	0.11	Collecting station										
41GS98	0.09	Farmstead									?	
41GS99	0.34	Dump								?	+	
41GS100	0.21	Farmstead									?	
41GS101	0.18	Farmstead									?	
41GS102	0.05	Hunting station									+	
41GS103	0.61	Farmstead	+								?	
41GS104	0.30	Cemetery								+	+	

Table A2-3.
Lake Ray Roberts: Site Potential

Site	Potential for Analysis				Erosion/ Disturbance	Present Land-use
	Midden	C-14	Fauna	In Situ Features		
41DN76				+	Low to Mod.	Pasture
41DN77	+		+	+	Low	Pasture
41DN78					Moderate	Plowed Field/Pasture
41DN79	+	+	+	+	Mod. to High	Plowed Field
41DN80					High	Plowed Field
41DN81	+	+	+		Moderate	Plowed Field
41DN82					Low	Plowed Field
41DN83				+	High	Building
41DN84				+	Moderate	Building/Garden
41DN85	+	+	+		Low	Pasture
41DN86	+				High	Plowed Field
41DN87	+		+	+	Mod. to High	Field/Pasture
41DN88	+		+		Moderate	Pasture
41DN89					Moderate	Pasture
41DN90					Moderate	Woodland
41DN91	+		+	+	Low	Pasture
41DN92	+			+	Mod. to High	Pasture
41DN93				+	Low	Pasture
41DN94	+			+	Moderate	Pasture
41DN95				+	Moderate	Pasture
41DN96					Moderate	Pasture
41DN97	+		+	+	Low	Pasture
41DN98					Mod. to High	Wooded Pasture
41DN99	+	+	+		Mod. to High	Pasture
41DN100					Low to Mod.	Pasture
41DN101	+	+	+		Mod. to High	Plowed Field
41DN102	+	+	+	+	Mod. to High	Pasture/Gravel Pit
41DN103	+		+	+	Mod. to High	Plowed Field
41DN104					High	Plowed Field
41DN105					Mod. to High	Plowed Field
41DN106				+	Low	Abandoned
41DN107				+	Low	Abandoned
41DN108				+	Mod. to High	Pasture/Field
41DN109					Low	Plowed Field
41DN110	+			+	Low	Plowed Field
41DN111	+			+	Low	Pasture
41DN112	+			+	Low to Mod.	Pasture/Building
41DN113	+			+	Low to Mod.	Pasture/Plowed Field
41DN114			+		Low to Mod.	Pasture
41DN115					Low to Mod.	Pasture
41DN116	+			+	Low	Pasture
41DN117				+	Low to Mod.	Woodland
41DN118				+	Low	Building
41DN119				+	Low	Construction

Table A2-3. (Cont.)

Site	Potential for Analysis			Erosion/ Disturbance	Present Land-use
	Midden	C-14	Fauna In Situ Features		
41DN120			+	Low	Pasture
41DN121			+	Low	Pasture
41DN122			+	Low	Construction
41DN123			+	Low	Construction
41DN124			+	Low	Construction
41DN125			+	Low	Construction
41DN126			+	Low to Mod.	Pasture
41DN127			+	Low	Construction
41DN128			+	Low	Construction
41DN129			+	Low	Construction
41DN130			+	Low to Mod.	Pasture
41DN131			+	Low	Construction
41DN132			+	Low	Construction
41DN133			+	Low	Construction
41DN134			+	Low to Mod.	Pasture
41DN135			+	Mod. to High	Pasture
41DN136			+	Low	Construction
41DN137			+	Low	Construction
41DN138			+	Low	Construction
41DN139			+	Low	Construction
41DN140			+	Low	Construction
41DN141			+	Moderate	Construction
41DN142			+	Moderate	Pasture
41DN143			+	Low	Construction
41DN144			+	Moderate	Construction
41DN145			+	Moderate	Construction
41DN146			+	Low	Construction
41DN147				Low to Mod.	Pasture
41DN148				Low to Mod.	Pasture
41DN149		+		Low	Plowed Field
41DN150		+	+	Low to Mod.	Pasture
41DN151			+	Low	Construction
41DN152		+		Low to Mod.	Pasture
41DN153				Low to Mod.	Plowed Field/ Construction
41DN154			+	Low	Woodland
41DN155			+	Low	Pasture
41DN156				Low to Mod.	Pasture
41DN157			+	Low	Pasture
41DN158			+	Low to Mod.	Shore Line
41DN159				Low to Mod.	Pasture
41DN160				Low to Mod.	Pasture
41DN161				Low to Mod.	Pasture
41DN162				Low to Mod.	Pasture
41DN163				Low to Mod.	Pasture

Table A2-3. (Cont.)

Site	Potential for Analysis				Erosion/ Disturbance	Present Land-use
	Midden	C-14	Fauna	In Situ Features		
41DN164				+	Low to Mod.	Pasture
41DN165				+	Low to Mod.	Pasture
41DN166					Low	Pasture
41DN167				+	Low	Pasture
41DN168					Low to Mod.	Pasture
41DN169					Low	Pasture
41DN170					Low to Mod.	Plowed Field
41DN171				+	Low	Pasture
41DN172				+	Low	Pasture
41DN173			+	+	Low to Mod.	Pasture
41DN174					Low	Pasture
41DN175			+		High	Plowed Field
41DN176				+	Mod. to High	Pasture
41DN177				+	Low to Mod.	Pasture
41DN178					Low	Plowed Field
41DN179	+				Low to Mod.	Undisturbed
41DN180					Mod. to High	Pasture
41DN181					Moderate	Pasture
41DN182					Low to Mod.	Pasture
41DN183				+	Low	Pasture
41DN184				+	Low	Pasture
41DN185				+	Low to Mod.	Pasture
41DN186				+	Low	Woodland
41DN187		+			Mod. to High	Plowed Field
41DN188		+			Mod. to High	Plowed Field
41DN189	+				Low to Mod.	Pasture
41DN190					Low	Pasture
41DN191					Low	Pasture
41DN192	+				Low	Pasture
41DN193				+	Low	Pasture
41DN194					Low	Pasture
41DN195					Moderate	Pasture
41DN196				+	Low	Construction
41DN197	+	+	+		Moderate	Pasture
41DN198				+	Low	Construction
41DN199	+	+			Mod. to High	Pasture
41DN200	+			+	Low	Pasture
41DN201					Moderate	Pasture
41DN202					Low	Pasture
41DN17	+	+	+	+	Mod. to High	Construction
41DN204				+	Low	Construction
41DN205	+				High	Pasture
41DN206				+	Moderate	Pasture
41DN207					Moderate	Pasture
41DN208					Moderate	Pasture

Table A2-3. (Cont.)

Site	Potential for Analysis				Erosion/ Disturbance	Present Land-use
	Midden	C-14	Fauna	In Situ Features		
41DN209					Low	Pasture
41DN210	+				Mod. to High	Pasture
41DN211					Moderate	Pasture
41DN212					Moderate	Woodland
41DN213					Low	Pasture
41DN214					Moderate	Woodland
41DN215				+	Low	Pasture
41DN216				+	Low	Construction
41DN217	+				Moderate	Woodland
41DN218					High	Woodland
41DN219					High	Pasture
41DN220				+	Low	Pasture
41DN221					Low	Pasture
41DN222				?	Low	Pasture
41DN223				+	Low	Construction
41DN224				+	Low	Construction
41DN225				+	Low	Construction/ Pasture
41DN226				+	Low	Construction
41DN227				+	Low	Construction
41DN228	+			+	Low	Pasture
41DN229				+	Low	Construction
41DN230	+			+	Moderate	Pasture
41DN231					Moderate	Pasture
41DN232				?	Low	Pasture
41DN233				?	Low	Pasture
41DN234					Low	Pasture
41CO10				+	Mod. to High	Pasture
41CO11					Low to Mod.	Pasture
41CO12					Mod. to High	Plowed Field
41CO13					Low	Pasture
41CO14					Low to Mod.	Pasture
41CO15				+	Low to Mod.	Pasture
41CO16				+	Low to Mod.	Pasture
41CO17					Low to Mod.	Pasture
41CO18	+				Low to Mod.	Pasture
41CO19					Low	Pasture
41CO20					Low	Pasture
41CO21					None	Undisturbed
41CO22				+	Low to Mod.	Pasture
41CO23					Low to Mod.	Pasture
41CO24					Low to Mod.	Pasture
41CO25				+	Low to Mod.	Pasture
41CO26					Low to Mod.	Pasture
41CO27	+			+	Moderate	Pasture

Table A2-3. (Cont.)

Site	Potential for Analysis				Erosion/ Disturbance	Present Land-use
	Midden	C-14	Fauna	In Situ Features		
41CO28					Low to Mod.	Pasture
41CO29					Low to Mod.	Pasture
41CO30				+	Moderate	Pasture
41CO31				+	Moderate	Pasture
41CO32				+	Low	Undisturbed ?
41CO33				+	Low to Mod.	Pasture
41CO34				+	Low to Mod.	Pasture
41CO35					Moderate	Pasture
41CO36				+	Low to Mod.	Pasture
41CO37				+	Low	Pasture
41CO38				+	Low to Mod.	Pasture
41CO39				+	Low to Mod.	Pasture
41CO40				+	Low	Pasture
41CO41				+	Low to Mod.	Pasture
41CO42				+	Low	Pasture
41CO43				+	Low	Pasture
41CO44				+	Low	Pasture
41CO45					High	Pasture
41CO46				+	Low	Pasture
41CO47				+	Low to Mod.	Pasture
41CO48					Moderate	Pasture
41CO49				+	Moderate	Pasture
41CO50		+			Moderate	Pasture/Plowed Field
41CO51					Low	Undisturbed
41CO52					Moderate	Undisturbed
41CO53					Moderate	Pasture
41CO54					Moderate	Pasture
41CO55	+				Moderate	Pasture
41CO56	+				Moderate	Pasture
41CO57				+	Moderate	Pasture
41CO58					Moderate	Pasture
41CO59				+	Moderate	Pasture
41CO60					Moderate	Pasture
41CO61				+	Moderate	Pasture
41CO62				+	Moderate	Pasture
41CO63				+	Low	Pasture
41CO64				+	Low	Pasture
41CO65				+	Low	Pasture
41CO66	+			+	Low	Pasture
41CO67	+				Moderate	Pasture
41CO68	+			+	Low	Pasture
41CO69	+			+	Low	Pasture
41CO70			+		Low	Pasture
41CO71	+	+	+		Moderate	Pasture
41CO72		+			Moderate	Pasture

Table A2-3. (Cont.)

Site	Potential for Analysis			Erosion/ Disturbance	Present Land-use
	Midden	C-14	Fauna In Situ Features		
41CO73		+	+	Moderate	Pasture
41CO74				Moderate	Pasture
41CO75	+		+	None	Undisturbed
41CO76	+			Undisturbed	Pasture
41CO77				High	Pasture
41CO78			+	Low	Plowed Field
41CO79	+			Moderate	Pasture
41CO80				High	Pasture
41CO81			+	Moderate	Pasture
41CO82				Moderate	Pasture
41CO83			+	Undisturbed	Pasture
41CO84	+		+	Undisturbed	Undisturbed
41CO85				Undisturbed	Pasture
41CO86				Moderate	Shore Line Erosion
41CO87	+		+	Moderate	Pasture
41CO88	+			High	Pasture
41CO89				Moderate	Pasture
41CO90				Undisturbed	Pasture
41CO91				Undisturbed	Pasture
41CO92				Undisturbed	Pasture
41CO93				Moderate	Pasture
41CO94	+			Moderate	Pasture
41CO95	+			Moderate	Pasture
41CO96	+		+	Undisturbed	Pasture
41CO97				Undisturbed	Pasture
41CO98	+			Moderate	Pasture
41CO99				Moderate	Pasture
41CO100				Moderate	Pasture
41CO101	+		+	Moderate	Pasture
41CO102	+		+	Undisturbed	Undisturbed
41CO103	+		+	Moderate	Undisturbed
41CO104	+		+	Undisturbed	Pasture
41CO105	+		+	Moderate	Construction
41CO106				Moderate	Pasture
41CO107	+		+	Undisturbed	Undisturbed
41CO108					
41CO109				Moderate	Plowed Field
41CO110	+		+	Undisturbed	Undisturbed
41CO111					
41CO112	+		+	Moderate	Pasture
41CO113	+		+	Moderate	Pasture
41CO114	+		+	Moderate	Pasture
41CO115			+	Undisturbed	Pasture
41CO116	+		+	Undisturbed	Pasture
41CO117	+		+	Moderate	Pasture

Table A2-3. (Cont.)

Site	Potential for Analysis				Erosion/ Disturbance	Present Land-use
	Midden	C-14	Fauna	In Situ Features		
41CO118				+	Undisturbed	Pasture
41CO119				+	Undisturbed	Undisturbed
41CO120				+	Undisturbed	Pasture
41CO121					Moderate	Pasture
41CO122					Undisturbed	Pasture
41CO123	+			+	Undisturbed	Pasture
41CO124					Undisturbed	Pasture
41CO125	+				Undisturbed	Pasture
41CO126	+				Moderate	Pasture
41CO127	+			+	Undisturbed	Pasture
41CO128	+			+	Undisturbed	Pasture
41CO129	+			+	Moderate	Pasture
41CO130	+			+	Moderate	Pasture
41CO131	+			+	Undisturbed	Pasture
41CO132	+			+	Moderate	Pasture
41CO133	+			+	Undisturbed	Pasture
41CO134	+		+	+	Moderate	Plowed Field
41CO135				+	Low	Undisturbed
41CO136				+	Low	Pasture
41CO137	+			+	Moderate	Pasture
41CO138				+	Moderate	Woodland
41CO139	?				Moderate	Plowed Field
41GS39	+				Moderate	Pasture
41GS40				+	Moderate	Pasture
41GS41					High	Pasture/Plowed Field
41GS42	+			+	Moderate	Pasture
41GS43				+	Moderate	Pasture
41GS44					Moderate	Plowed Field
41GS45				+	Moderate	Pasture
41GS46				+	Moderate	Pasture
41GS47					High to Mod.	Pasture
41GS48	+				Moderate	Pasture
41GS49					Moderate	Pasture
41GS50					Moderate	Pasture
41GS51	+			+	Undisturbed	Pasture
41GS52	+			+	Undisturbed	Pasture
41GS53				+	Moderate	Pasture
41GS54	+				Moderate	Pasture
41GS55					Moderate	Pasture
41GS56	+			+	Moderate	Pasture
41GS57	+			+	Moderate	Pasture
41GS58					Moderate	Pasture
41GS59	+			+	Undisturbed	Pasture
41GS60					Moderate	Pasture
41GS61	+				Moderate	Pasture

Table A2-3. (Cont.)

Site	Potential for Analysis			Erosion/ Disturbance	Present Land-use
	Midden	C-14	Fauna In Situ Features		
41GS62				Moderate	Pasture
41GS63			+	Undisturbed	Pasture
41GS64		+		Moderate	Pasture
41GS65	+			Undisturbed	Pasture
41GS66	+		+	Undisturbed	Undisturbed
41GS67				Moderate	Pasture
41GS68	+			Moderate	Pasture
41GS69	+			Moderate	Pasture
41GS70	+		+	Moderate	Pasture
41GS71	+			Moderate	Pasture
41GS72	+			Moderate	Pasture
41GS73	+			Moderate	Plowed Field
41GS74			+	Moderate	Pasture
41GS75				High	Plowed Field
41GS76	+			Moderate	Pasture
41GS77				Moderate	Plowed Field
41GS78	+		+	Moderate	Pasture
41GS79			+	Moderate	Pasture
41GS80	+		+	Moderate	Pasture
41GS81				Moderate	Pasture
41GS82	+		+	Moderate	Pasture
41GS83	+		+	Moderate	Pasture
41GS84			+	Moderate	Pasture
41GS85	+	+	+	Moderate	Pasture
41GS86	+		+	Undisturbed	Pasture
41GS87	+		+	Moderate	Pasture
41GS88	+			Moderate	Pasture/Plowed Field
41GS89	+		+	Moderate	Pasture
41GS90	+			Moderate	Pasture
41GS91	+		+	Moderate	Plowed Field
41GS92				Moderate	Plowed Field
41GS93	+	+		Moderate	Pasture
41GS94				Moderate	Pasture
41GS95	+		+	Moderate	Pasture
41GS96				Moderate	Pasture
41GS97				Moderate	Pasture
41GS98				Moderate	Plowed Field/Pasture
41GS99	+			Moderate	Pasture
41GS100				Moderate	Pasture
41GS101	+		+	Moderate	Pasture
41GS102	+			Moderate	Pasture
41GS103	+		+	Undisturbed	Pasture
41GS104			+	Undisturbed	Woodland

APPENDIX 3

STANDING STRUCTURE TABLES

Table A3-1
Standing structures in the project area, houses.

Site number	1800-1850	1850-1920	1920-1940	Plan	Stylistic details	Construction materials	Condition	House typology
#IGS40		X		Southern pyramidal		Clapboard	G	2.31.42.50.62.88.90
#IGS42		X		Vernacular		Stone pliers		
#IGS45		X		3 room hall & parlor	Altered with additions	Clapboard	G	4.31.40.50.62.88.90
#IGS46	X		X	Planbook	Interior French doors	Asphalt over unknown siding	E	7.30.40.50.60.89.91
#IGS49		X		Cumberland adapted into gambrel barn		Asphalt shingle over frame	D	23.31.41.50.60.89.103
#IGS51								
#IGS63			X	Vernacular		Wide vertical board/asphalt siding	F	2.31.42.50.70.88.103
#IGS75		X	X	Midwestern Tee		Board & batten	F	8.30.40.50.60.88.91.93
#IGS84	X			Tee	Wide bargeboard	Board & batten elevated pliers	O	8.30.40.50.60.88.94
#ICO10		?		Vernacular (ND)		Tar paper over unknown materials	G	24.30.40.50.60.88.91
#ICO22	?			N.D.		Wood shakes, vertical planks	R	
#ICO31				N.D.		Field stone and concrete pliers	R	
#ICO32			X	Planbook				
#ICO33		X	X	Single cell, with shed addition		Board & batten	G	2.31.42.50.62.88.90.93
#ICO36	X			House-barn with dogtrot and log crib				1.30.40.50.60.88.90
#ICO36			X	Tee (1904)				23.30.40.51.60.88.90
#ICO38		X	X	1 1/2 story N.D. plan		Only stone foundation left		
#ICO39		?		N.D.		Vertical planks	D	24.32.40.51.60.88.104
#ICO42			X	Tenant house, single cell		Asphalt siding over vertical board	F	2.33.40.41.50.60.88.91
#ICO47			X	Vernacular		Tar paper	G	1.30.42.50.60.88.103
#ICO51		?		N.D.	N.D.	Clapboard	R	23.31.42.50.61.88.95
#ICO78		X	X	Ell		Log and lumber remains	G	12.30.40.50.60.88.97
#ICO81		X	X	Double-cell		Asphalt siding	F	2.32.40.50.60.88.104
#ICO82		X	X	Tee		Clapboard with tin roof	F	8.30.43.50.71.88.97
#ICO83	?	?		Log room with saddlebag	Wide bargeboard	Clapboard with shingles	N.D.	2.34.42.50.60.88.91.93
#ICO103			X	Planbook		Random rock	D	23.31.42.50.60.88.97
#ICO104		X	X	Single cell with addition	Wide bargeboard	Clapboard	D	1.32.42.50.60.88.103
#ICO105		X	X	I-house		Clapboard	G	7.32.40.51.60.88.91.93
#ICO108		X	X	Double-cell		Clapboard	D	2.30.42.50.60.88.90.93

Table A3-1 (Cont'd)

Site number	1800-1850	1850-1880	1880-1920	1920-1940	Plan	Stylistic details	Construction materials	Condition	House typology
41CO110		?			Georgian 2 story dogtrot converted to barn	Bungalow, Greek revival	Clapboard Log	E	7.31.40.51.62.88.96
41CO111	1854							N.D.	5.36.43.52.60.88.104
41CO111		X			2 story cumberland Tee		Wood shingle, clapboard	E	2.8.31.42.52.60.88.90.97
41CO115		?			Ell-converted to barn		N.D.	G	24.36.43.54.60.88.104
41CO118					Single pen		Log with 2 clapboard additions	D	1.30.40.50.60.88.91.93
41CO120	?				Shotgun		Covered with asphalt siding	G	23.35.43.50.60.88.91
41CO121					N.D.			N.D.	23.35.43.50.60.88.97
41CO130				X	Vernacular Moderne	Wrap-around window, parapet roof, string course, rounded corners	Asphalt siding over ? Concrete block (C.M.U.)	N.D.	2.31.41.50.60.91.95
41DN83								E	23.35.42.50.69.88.91
41DN84				?	Vernacular Planbook	Tapered posts, battered porch posts	N.D.	F	23.35.43.50.60.88.90
41DN87				Mid 20's		N.D.	Clapboard	E	23.35.43.50.60.88.104
41DN118	?				Cumberland (tee)		N.D.	G	24.36.43.50.60.82.90
41DN122				X	Saddlebag		Clapboard	G	N.D.
41DN123				X	Vernacular		Clapboard	G	7.30.40.50.60.88.91.92
41DN125					Saddlebag		Board & batten	F	2.30.40.50.60.88.90.93
41DN127				X	Tee		N.D.	E	8.33.43.50.60.88.91.95
41DN128				?	N.D.		N.D.	G-E	2.31.43.50.60.88.91.93
41DN129				?	N.D.		N.D.	N.D.	N.D.
41DN130					Too new				
41DN131					Vernacular		Horizontal siding over frame	G	23.31.43.50.60.88.93
41DN132				X	Hall and parlor		N.D.	G	2.30.43.50.60.80.90.93
41DN132				X	Single-cell		N.D.	G	1.30.42.50.61.88.90.94
41DN133				X	Ell	Rock faced with native stone	Stone on frame	G	12.35.43.50.60.88.91
41DN134				X	Vernacular		Asphalt siding	G	23.30.43.50.60.88.91.97
41DN136				X	Vernacular		Clapboard	F	23.36.43.50.60.88.104
41DN138				X	Southern pyramidal		Clapboard	G	24.36.40.50.61.88.90
41DN140				X	Planbook	Cut-out porch	Clapboard	E	23.35.43.50.60.88.91

Table A3-1 (Cont'd)

Site number	1800-1850	1850-1880	1880-1920	1920-1940	Plan	Stylistic details	Construction materials	Condition	House typology
41DN141					No Data (No Access)		Asphalt siding	E	23.35.43.50.61.88.91
41DN143				X	Planbook			N.D.	N.D.
41DN144				X	Planbook				N.D., too new
41DN145					Too recent				23.35.40.50.60.88.90
41DN151			1916		Vernacular	Victorian columns	clapboard	E	1.30.42.50.60.88.90
41DN157		X			Single cell slave quarters		Clapboard (log?)	E	6.35.43.51.60.88.90.97
41DN157		X			Dogtrot		Log (?) under clapboard	E	24.36.43.50.61.88.90
41DN164				X	Modern planbook		N.D.	E	N.D.
41DN165			X		N.D.		Clapboard	G	1.32.40.50.60.88.91
41DN167			?		Single cell with vernacular additions		1 log room covered with clapboard/ board & batten additions	D	2.31.40.50.60.88.90
41DN171				X	Single cell (school?)			D	1.30.42.50.60.88.90
41DN171				X	Cumberland (double depth)			D	24.36.43.50.60.88.103
41DN172			?		N.D.	Altered to mid 20th century vernacular	Clapboard	E	7.35.42.52.60.88.90
41DN174			?		Georgian	Rehabilitated	Aluminum siding over?	E	2.7.35.43.51.60.88.90.94
41DN176			X		1½ story Cumberland (Tee)		Clapboard	G	2.32.42.50.60.88.90.97
41DN191			X		Cumberland with additions		Board & batten	E	23.31.43.50.60.88.91.93
41DN193				X	N.D.		Clapboard	E	23.35.42.52.60.88.103
41DN196		X			2 story single pen with 2 shed additions	Simple bargeboards	Board and batten	G	6.35.40.41.50.60.88.104
41DN198		X			Dogtrot with tee		Log with frame addition	G	7.31.40.50.60.88.91
41DN197			X		Planbook		Horizontal siding/frame	G	12.35.43.50.60.88.91.97
41DN204				X	Ell (vernacular)		Clapboard	F	12.32.43.50.60.88.90
41DN223		X			Ell (Vernacular)		Clapboard	F	

Table A3-2
Standing structures in the project area, barns and cribs

Site number	Barn		Crib		Cond.	Construction materials	Cond.
	1800-1850	1850-1920-1940	Plan	Plan			
41GS42							
41GS45		X	1 1/2 story, unidentified, animal shelters both sides	Vertical board	G		
41GS46		X	3-bay with original rear shed		G		
41GS51		X	Dutch barn (?)	Board & batten	D		
41GS56			Gable-entry	Covered with corrugated metal	D		
41GS75		X	3-bay	Board & batten	N.D.		
41GS79		X	Tobacco ?	Vertical board with stone piers	F		
41CO10		X	N.D.				
41CO15	X?		Multi-purpose hay barn	Log beam, vertical plank	F		
41CO32		X	Multi-purpose hay barn	Vertical plank with wood shingle	D		
41CO36	X		House-barn with dogtrot and log crib		G		
41CO42		X	N.D.	Handhewn log beams	R		
41CO78	2		2 multi-purpose hay barns		G-F		
41CO82	?	X	N.D.	N.D.	R		
41CO103		X	Multi-purpose hay barn	Board & batten	G		
41CO105		X	Multi-purpose hay barn	Clapboard and vertical board	D		
41CO108		X	N.D.	Vertical board, wood shingles	F		
41CO110	X		Transverse crib	Board & batten	G		
41CO111			Single pen with shed addition	Log	D		

Ridge parallel to alley,
pens both sides

Site number	Barn			Cond. 1800-1850-1880-1920-1940	Construction materials	Crib Plan	Construction materials	Cond.
	1800-1850-1880-1920-1940	Plan	ND					
41CO111		Multi-purpose hay barn			Board & batten			
41CO112		Double pen with central alley, front and rear sheds			Log			
41CO118	?	Gable entry			Vertical frame			
41CO118	X	2 crib w/central alley, shed additions			Log cribs, wood shingles, board & batten			
41CO120X?		Multi-purpose			Vertical board with patching			
41CO130	X				N.D.			
41DN83		N.D.	X		Both board & batten			
41DN98	2	2 multi-purpose barns						
41DN106								
41DN107								
41DN118		Multi-purpose	X		N.D.			
41DN125								
41DN134								
41DN138		Multi-purpose	X		Vertical board			
41DN143		Transverse double crib	X		Log			
41DN146		Single pen	X		Board & batten			
41DN151	Pre-1900	Gambrel roof, multi-purpose						
41DN157	X?	Single pen			Board & batten over log			
41DN157		Multi-purpose			Board & batten			
41DN157	X							
41DN163								

Table A3-2 (Cont'd)

Site number	Barn			Construction materials	Crib			Construction materials	Cond.
	1800-1850-1880-1920-1940	Plan	ND		Cond. 1800-1850-1880-1920-1940	Plan	ND		
41DN171			X						
41DN172		N.D. Multi-purpose	X						
41DN174		2 Multi-purpose							
41DN176		Multi-purpose	X						
41DN191		Multi-purpose							
41DN193		Gambrel, gambrel entry, central alley	X						
41DN198		Multi-purpose	X						
41DN204		Multi-purpose	X						

Table A3-3

A3-8

Table A3-3 (Cont'd)

Site numbers	Cellar		Type	Well		Construction materials	Chicken coop	Other Outbuildings		
	Type	Construction materials		Well-house				Smoke house	Out house	Garage Storage shed
41CO120	B	Concrete Stone & Mortar	CC			Round concrete	G			F
41CO130	C									
41DN83	Under tee wing of house	N.D.								
41DN84										
41DN118										
41DN119										
41DN121	C	Wood & Tin								
41DN122										
41DN123										
41DN127										
41DN128	C	Wood & Tin								
41DN131										
41DN132										
41DN134										
41DN136	B	Concrete								
41DN137										
41DN138										
41DN139										
41DN140										
41DN142										
41DN143										
41DN151										
41DN157	B	Cement with wood door Mortared front and field- stone lined								
41DN164	B									
41DN165	N.D.	N.D.								

Table A3-3 (Cont'd)

Site numbers	Cellar		Type	Well		Construction materials	Other Outbuildings				
	Type	Construction materials		Well-house	Well		Chicken coop	Smoke house	Out house	Garage	Storage shed
4IDN167	Depression	Cement	N.D. AA	Pulley frame, Cement slab	Stonelined			F	F	G	grave ?
4IDN171											
4IDN172	B			Windmill and pump							
4IDN174	N.D.	N.D.	BB	Water tank wood			G		G	G	G
4IDN176	Depression	N.D.	N.D.	Pumphouse	Brick and cement	Wood			D	D	R
4IDN176											
4IDN191	B	Fieldstone and mortar		Water tank					D		
4IDN193	B	Fieldstone and mortar	N.D.		N.D.				G		G
4IDN198											R, G
4IDN198											7G
4IDN198											2F
4IDN198											
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Table A3-3 (Cont'd)

KEY: Other Outbuildings (Condition)

E	-	Excellent
G	-	Good
F	-	Fair
D	-	Deteriorated
"GG" or "JE"	-	Multiple buildings

<u>Well Type</u>	
AA	No grade-level or above
BB	Grade-level finish
CC	Above-ground structure

<u>Cellar Type</u>	
A	Door parallel to ground
B	Door set into cellar at angle to ground
C	Door perpendicular to ground

APPENDIX 4

ARTIFACT TABLES

TABLE A4-1. SURFACE ARTIFACT ASSEMBLAGES FOR LAKE RAY ROBERTS PREHISTORIC SITES

		FLAKES				TOOLS										MISCELLANEOUS PREHISTORIC MATERIALS											
TARL NUMBER	ARROW POINTS	DART POINTS	Primary	Secondary	Interior	Biface Thinning	Retouched	Blades	Quarry Blanks	Bifaces	Side Scraper	End Scraper	Other Scrapers	Gravers	Denticulates	Other Tools	Cores	Hammerstones	Milling Stones	Mano	Misc. Bone	Charcoal	Mussel Shell	Fire Cracked Rock	CERAMICS	MISC. ARTIFACTS	TOTAL
41 DN 17	2 Scallorn* 1 Fresno* 2 Harrell* 5 Perdiz* 1 Livermore*	2 Carrollton* 6 Gary*		3	1		1*		2*	4*							1	1		1*		*			1 grog tempered* 5 Mocona Plain* 1 Mocona Plain rim	cremated human bone* bone tools* 2 celts* 1 alternately beveled knife* 4 flakes* 2 drills*	52
41 DN 79			10	20		25			2								3	4					5	25			94
41 DN 80				15															1							1 perforator	17
41 DN 81	1 Fresno	1 Ellis 1 Gary	5	20	50	50			5								5	2				15	20			175	
41 DN 82				2	3				1									1			1	1			1 non-diagnostic lithic shatter	10	
41 DN 84		2 Ellis*	2	4		1												1					5		2 unidentified points	17	
41 DN 85			2		3																					5	
41 DN 87				5													1									6	

* Reported by previous investigation

TABLE A4-1 (CONT'T)

[illegible]

* Reported by previous investigation

TABLE A4-1 (CONT'T)

TARL NUMBER	ARROW POINTS	DART POINTS	FLAKES			TOOLS											MISCELLANEOUS PREHISTORIC MATERIALS											MISC. ARTIFACTS	TOTAL
			Primary	Secondary	Interior	Biface Thinning	Retouched	Blades	Quarry Blanks	Bifaces	Side Scraper	End Scraper	Other Scrapers	Gravers	Denticulates	Other Tools	Cores	Hammerstones	Milling Stones	Mano	Misc. Bone	Charcoal	Mussel Shell	Fire Cracked Rock	CERAMICS				
41 DN 148			2	1	1																						4		
41 DN 149		1 Gary			10																		12				23		
41 DN 150			1	2															1			100	1	3 shell tempered 1 incised		109			
41 DN 152					15					1							1						3				20		
41 DN 156					4																					4			
41 DN 159			8	7	20	1											6	2							1 unidentified point tip	45			
41 DN 160			7	1				15	1								2									26			
41 DN 161			2	4				25									7									38			
41 DN 162			9	8	1			15									8									41			
41 DN 163			6	3	3			15	1								7	2								37			
41 DN 169				3	1												1									5			
41 DN 173			10	14	1	3			1								1				2				1 burial*	33			

* Reported by previous investigation

TABLE A4-1 (CONT'T)

			FLAKES				TOOLS										MISCELLANEOUS PREHISTORIC MATERIALS										MISC. ARTIFACTS	TOTAL
TARL NUMBER	ARROW POINTS	DART POINTS	Primary	Secondary	Interior	Biface Thinning	Retouched	Blades	Quarry Blanks	Bifaces	Side Scraper	End Scraper	Other Scrapers	Gravers	Denticulates	Other Tools	Cores	Hammers	Milling Stones	Mano	Misc. Bone	Charcoal	Mussel Shell	Fire Cracked Rock	CERAMICS			
41 DN 175			9	7	3																1	3				1 unidentified point tip	24	
41 DN 178			15	3				4									13										35	
41 DN 180			1		2																					3		
41 DN 187			9	7	20	1	1										5							25		68		
41 DN 188	1 Fresno		23	13	53	6	2		3								12	1						25		1 unidentified point tip 1 chert gouge	140	
41 DN 197		2 Elliss*	2						1								*			*	*	*	*	3		12		
41 DN 199			1	1					1														1			4		
41 DN 201			1																							1		
41 DN 206			1																							1		
41 DN 207			50	50	25			2	2								20	5							1 Mocona Plain rim	155		
41 DN 208		1 Elliss	55	15					1								30	1									103	

* Reported by previous investigation

TABLE A4-1 (CONT'T)

TABL NUMBER	ARROW POINTS	DART POINTS	FLAKES				TOOLS											MISCELLANEOUS PREHISTORIC MATERIALS							CERAMICS	MISC. ARTIFACTS	TOTAL
			Primary	Secondary	Interior	Biface Thinning	Retouched	Blades	Quarry Blanks	Bifaces	Side Scraper	End Scraper	Other Scrapers	Gravers	Denticulates	Other Tools	Cores	Hammerstones	Milling Stones	Mano	Misc. Bone	Charcoal	Mussel Shell	Fire Cracked Rock			
41 DN 210			10	4		1																		4			19
41 DN 211			35	1						2							6									44	
41 DN 217		1 Yarbrough		1	2				1	1									1							7	
41 DN 219			3						1																	4	

* Reported by previous investigation

TABLE A4-1 (CONT'T)

TABL NUMBER	ARROW POINTS	DART POINTS	FLAKES				TOOLS										MISCELLANEOUS PREHISTORIC MATERIALS							MISC. ARTIFACTS	TOTAL	
			Primary	Secondary	Interior	Biface Thinning	Retouched	Blades	Quarry Blanks	Bifaces	Side Scraper	End Scraper	Other Scrapers	Gravers	Denticulates	Other Tools	Cores	Hammerstones	Milling Stones	Mano	Misc. Bone	Charcoal	Mussel Shell			Fire Cracked Rock
41 CO 11		1 Elam	8	12	7					1	1														3 unidentified point fragments	33
41 CO 14			2	1	2				2																	7
41 CO 17	1 Scallorn		8	14	13	3			1	1						2										43
41 CO 18	1 Scallorn base		6	2	8	4										2								1 biface fragment	24	
41 CO 19					3																				3	
41 CO 20			1		5	1										1									8	
41 CO 23			1		5					1															7	
41 CO 24			2		7																				9	
41 CO 26				1	7											1									9	
41 CO 28			1	6	3	1	1										1								13	
41 CO 29	2 Gary 1 Kent		13	29	23	9	3									3	1							1 Gary point converted to burin	84	
41 CO 35					10												1								11	

* Reported by previous investigation

TABLE A4-1 (CONT'T)

			FLAKES				TOOLS											MISCELLANEOUS PREHISTORIC MATERIALS											MISC. ARTIFACTS	TOTAL
TABL NUMBER	ARROW POINTS	DART POINTS	Primary	Secondary	Interior	Biface Thinning	Retouched	Blades	Quarry Blanks	Bifaces	Side Scraper	End Scraper	Other Scrapers	Gravers	Denticulates	Other Tools	Cores	Hammerstones	Milling Stones	Mano	Misc. Bone	Charcoal	Mussel Shell	Fire Cracked Rock	CERAMICS					
41 CO 45		1 Edgewood 1 Gary			6																							8		
41 CO 47		1 unidenti- fied type reported																									5 flakes	6		
41 CO 48			3	3	6	1																					13			
41 CO 49						2																					2			
41 CO 50			9	14	6	2												1						30			62			
41 CO 52		1 Edgewood?		1	1																						3			
41 CO 53			2	1	4																						7			
41 CO 54					4																						4			
41 CO 55			11	16	9	6	2	1		1	1						1									1 alternately beveled convergent sidescraper	48			
41 CO 56		1 Ellis	1	1	7																						10			
41 CO 57	1 Scallorn	1 Yarbrough	1	1		1																		6			11			

* Reported by previous investigation

TABLE A4-1 (CONT'T)

TABL NUMBER	ARROW POINTS	DART POINTS	FLAKES				TOOLS											MISCELLANEOUS PREHISTORIC MATERIALS							MISC. ARTIFACTS	TOTAL
			Primary	Secondary	Interior	Bitace Thinning	Retouched	Blades	Quarry Blanks	Bitaces	Side Scraper	End Scraper	Other Scrapers	Gravers	Denticulates	Other Tools	Cores	Hammerstones	Milling Stones	Mano	Misc. Bone	Charcoal	Mussel Shell	Fire Cracked Rock	CERAMICS	
41 CO 60			1	3	1																					5
41 CO 67			1	1	9	1										1										13
41 CO 70					9					1											1					11
41 CO 71			3	5	9												2				+			+		19
41 CO 72	1 unidenti- fied type reported	1 unidenti- fied type reported	5	5	1																			+		14
41 CO 73		1 Fairland	2	1	1																			+		5
41 CO 74					3																					3
41 CO 76				1	12																					13
41 CO 79				6																						6
41 CO 85				1	2																					4
41 CO 89				2																						2
41 CO 90			1	2													1	3								7

* Reported by previous investigation

+ Present

TABLE A4-1 (CONT'T)

			FLAKES				TOOLS										MISCELLANEOUS PREHISTORIC MATERIALS												
TARL NUMBER	ARROW POINTS	DART POINTS	Primary	Secondary	Biface Thinning	Retouched	Blades	Quarry Blanks	Bifaces	Side Scraper	End Scraper	Other Scrapers	Gravers	Denticulates	Other Tools	Cores	Hammerstones	Milling Stones	Mano	Misc. Bone	Charcoal	Mussel Shell	Fire Cracked Rock	CERAMICS	MISC. ARTIFACTS	TOTAL			
41 CO 91			2	3	1	2																	1		9				
41 CO 93			3	5	3	1										1									13				
41 CO 94			1	3	7	2	1			1													2		17				
41 CO 95	2 Alba 2 Perdiz	1 Edgewood	4	25	30	15			1								1			3		8	6		3 unidentified points	101			
41 CO 97	1 Alba		3	20	10	5																3		1 heat spell	43				
41 CO 99				18	7											1									25				
41 CO 100			1	4																					6				
41 CO 106			1	2	7				1																11				
41 CO 123				1	2																				3				
41 CO 124			3	10	6	12																1			32				
41 CO 125		1 Yarbrough	1	6	6											2									1 bone tool	14			
41 CO 126			3	30	20	25																			1 quartzite flake	81			
41 CO 129																									1				

* Reported by previous investigation

TABLE A4-1 (CONT.)

			FLAKES				TOOLS												MISCELLANEOUS PREHISTORIC MATERIALS													
TARL NUMBER	ARROW POINTS	DART POINTS	Primary	Secondary	Interior	Biface Thinning	Retouched	Blades	Quarry Blanks	Bifaces	Side Scraper	End Scraper	Other Scrapers	Gravers	Denticulates	Other Tools	Cores	Hammerstones	Milling Stones	Mano	Misc. Bone	Charcoal	Mussel Shell	Fire Cracked Rock	CERAMICS	MISC. ARTIFACTS	TOTAL					
41 CO 134			4	1													1		3	1				4	100		114					
41 CO 139																							+	+		quartzite flakes groundstone 1 pounder	+					

* Reported by previous investigation

+ Present

TABLE A4-1 (CONT'T)

			FLAKES	TOOLS	MISCELLANEOUS PREHISTORIC MATERIALS	CERAMICS	MISC. ARTIFACTS	TOTAL
TARL NUMBER	ARROW POINTS	DART POINTS	Primary Secondary Interior	Biface Thinning Retouched Blades Quarry Blanks Bifaces Side Scraper End Scraper Other Scrapers Gravers Denticulates Other Tools Cores Hammerstones Milling Stones Mano Misc. Bone Charcoal Mussel Shell Fire Cracked Rock				
41 GS 48			1 2 9		1			18
41GS 60		1 Ellis	2					3
41 GS 62			4 3 9					16
41 GS 63			8 2		1			11
41 GS 64			1 7 10 3				4	25
41 GS 65		1 Trinity	2 12 3 1			1		24
41 GS 67		1 unidentified type reported	5 25 20				+	51
41 GS 68		1 Ellis	3 2 1			1	+	18
41 GS 69			20 25 35 2 1				10	93
41 GS 71			6 15 2				10	35
41 GS 72			3 15 20 6 1			1 1 2	12	64
41 GS 73		1 Ensor	2 10 12 4			1 1		32

* Reported by previous investigation

+ Present

TABLE A4-1 (CONT'T)

			FLAKES				TOOLS										MISCELLANEOUS PREHISTORIC MATERIALS							MISC. ARTIFACTS	TOTAL	
TABL NUMBER	ARROW POINTS	DART POINTS	Primary	Secondary	Interior	Biface Thinning	Retouched	Blades	Quarry Blanks	Bifaces	Side Scraper	End Scraper	Other Scrapers	Gravers	Denticulates	Other Tools	Cores	Hammerstones	Milling Stones	Mano	Misc. Bone	Charcoal	Mussel Shell	Fire Cracked Rock		
41 GS 81			1	1													2									4
41 GS 85	1 Scallorn		4	5																	2			1		13
41 GS 88	1 Perdiz		3	3						1							3	1							1 metate fragment	9
41 GS 90		1 Ensor	3	5	16	2	1										1								29	
41 GS 92			1	4	1	1	1																		7	
41 GS 93		2 Trinity	28	25	34	6	6			4	1						8	1					1		3 point tips 1 medial point fragment	120
41 GS 94			1	1		1																			3	
41 GS 96			1	1																				1 medial point fragment	3	
41 GS 97			2	1		1																			4	
41 GS 102		1 Palmillas?	1	1													1								4	

* Reported by previous investigation

TABLE A4-2. SURFACE ARTIFACT ASSEMBLAGES FOR LAKE RAY ROBERTS HISTORIC SITES

TARL NUMBER	GLASS													METAL		CERAMICS								MISC. ARTIFACTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	CYLINDRICAL BOTTLE													Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer		Sponge																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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41 DN 76				+		2	11	5		5	21			2	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</

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A4-15

TABLE A4-2 (CONT'D)

TABL NUMBER	GLASS												METAL		CERAMICS							MISC. ARTIFACTS										
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged		Blue Transfer	Sponge	MISC.							
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White														Black	Embossed	Pontil	Window			
41 DN 88			1		3	10	1	3	3	1							7 misc. frag. copper broach	24	9												7 tin enameled 1 hand painted floral 1 tile	
41 DN 91															4		6 barbwire 2 aluminum wire frag. 9 car parts 10 furnace pieces 1 corrugated aluminum frag.	7	19	2												
41 DN 92				10												3	1 hinge 1 barbwire 4 sheet metal frag.		100												10 wooden planks 1 electrical outlet	
41 DN 93						7			2			1					1 spike 1 copper clasp 1 hinge 1 pipe 1 barbwire 8 sheet metal frag.	7													1 cement frag.	
41 DN 94							5							1	10				3	3	22											
+ = Present																																

+ = Present

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS															METAL			CERAMICS								MISC. ARTIFACTS		
	CYLINDRICAL BOTTLE															Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		MISC.	
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black	Embossed	Pontil														Window
41 DN 95						2				2					13	8	1 wire frag. 5 misc. frag.	35	23									6 wooden planks	
41 DN 96						2											2 misc. frag.	6	20		3	1							
41 DN 97						7				2							1 barbwire 1 shovel brace 5 misc. frag.	10	4							15 slip/glaze			
41 DN 100						8		9									30								7 slip/glaze				
41 DN 104						20		10			7					5	3 hinges 2 chair legs	9	25	1					3 hand painted floral	2 shoes 1 toy			
41 DN 105						50		10			10						2 barbwire	20	50		5				2 frag. of roof material				
41 DN 108						50		20			20					50	4 hinges 2 farm tools 2 horse tack 2 barbwire	50	10	2	2	1		1 hand painted floral	100 wooden planks 1 toy				
41 DN 109						40		5			10		2			4	1 gun part	15	50			1	1						

+ = Present

+ = Present

TABLE A4-2 (CONT'D)

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TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS													METAL			CERAMICS							MISC. ARTIFACTS								
	CYLINDRICAL BOTTLE													Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer		Sponge	MISC.						
	Other Color	Bust-Off Grind	Snap Case	ABM	Sant-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black														Embossed	Pontil	Window			
41 DW 127						5									77	200	50 tin roofing sheets 6 door lock parts 6 door knobs 6 hinges 20 misc. frag.	50														50 wooden planks and beams 4 pipe frag.
41 DW 128																	cartridges	+	+												plastic frag.	
41 DW 130	50					500					75	1			+	1000	1 horse tack farm tools misc. hardware barbwire 100 burned tin cans 1 lantern frag.	+	+	75										4 hand painted floral	50 logs 1 shoe sole embossed moldmade glass	
41 DW 131	9						1				20				50	600	100 frag. tin roofing 3 lock frag. 6 door knobs 6 hinges 10 farm tools 18 misc. hardware 600 m barbwire	50	60											10 slip/glaze	500 planks and beams 500 asphalt shingles 3 pipe frag.	
+ = Present																																

+ = Problem

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS												METAL			CERAMICS								MISC. ARTIFACTS								
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		MISC.							
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White														Black	Embossed	Pontil	Window			
41 DN 135				2											18	810		15 tin sheets 1 door lock 3 hinges 9 misc. metal 4 metal pipes	60	15												250 wooden planks 5 screen doors 2 marble frag.
41 DN 138						15	5								50	500		8 lock frag. 16 door knobs 16 hinges 200 tin panels 8 farm tools 10 misc. hardware	50	20										1 slip/glaze	400 wooden planks 400 wooden shingles 1 glass marble 5 pipe frag.	
41 DN 142	+														+	+	hinges farm tools barbwire 2 wood-burning stoves 2 gas stoves tin cans	+	+	+											toys storage items	
41 DN 146						3	2													4	1										1 panel bottle	
41 DN 147		1			1	3	8												40	7									3 slip/glaze			
41 DN 150	20					8									4			1 farm tool 2 barbwire	12	6		1	1	2	1				1 hand painted floral 4 slip/glaze			
+ = Present																																

+ = Present

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS												METAL		CERAMICS								MISC. ARTIFACTS																					
	CYLINDRICAL BOTTLE												Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green		Purple	White	Black	Embossed	Pontil	Window	Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge	MISC.			
41 DN 166									4	1													10	1 door lock 1 construction tool 1 farm tool 1 horse tack 7 stove parts barbwire	10																	5 slip/glaze 1 porcelain	15 panel bottles	
41 DN 167	20														15	2							40	600		1 lock frag. 1 door knob 5 hinges 25 barbwire 2 barrel hoops 1 gas stove 1 kerosene can	8 30	1															3 slip/glaze	40 logs 100 planks and beams 100 roofing materials 1 kerosene lamp base
41 DN 168																16																								18 logs 2 glass jar liners				
41 DN 169																																									1 white glaze jiggerware bowl			
41 DN 170									20																		1 bullet 1 iron utensil handle 1 .35 shell cartridge rolled lead	2	2														7 porcelain	

1 - Prt. 6 of 1

1 - Prick mtl

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS												METAL			CERAMICS								MISC. ARTIFACTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		MISC.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White														Black	Embossed	Pontil	Window																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
41 DN 179						1	4				22					9	3		11 misc. frag.	29																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

TABLE NUMBER	GLASS										METAL		CERAMICS																				
	CYLINDRICAL BOTTLE												MISC.	MISC.	MISC. ARTIFACTS																		
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White				Black	Embossed	Pontil	Window	Wire Nail	Cut Nail												
41 DN 191	3		2												200	+		tin roofing 8 lock frag. 8 door knobs 20 hinges 3 farm tools 5 misc. hardware 2 barbwire 1 wood burning stove 1 car frame 4 license plates 3 enamel pans	5	50	15	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge	MISC.	logs planks and beams cedar shingles 2 pipe frag.		
41 DN 192	12						4								6			metal pipe frag. 12 misc. hardware 1 roll barbwire	6	3		3 slip/glaze	1	2	2								1 roofing material 1 panel bottle 1 screw top bottle

+ = Present

A4-24

TABLE A4-2 (CONT'D)

[illegible]

TABLE A4-2 (CONT'D)

TABL NUMBER	GLASS															METAL			CERAMICS								MISC. ARTIFACTS	
	CYLINDRICAL BOTTLE															Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		MISC.
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black	Embossed	Pontil														Window
41 DN 205	100	1	1	1	1	1	80				30				50								1			1 hanpainted floral 1 tin-enamelled 1 decalcomania 40 porcelain	5 panel bottle frag.	
41 DN 206														1														
41 DN 209						1																						
41 DN 212			1			1	13	15	1			1															1 shell button	
41 DN 213			2			50		10	10	1	10				10												1 blue panel bottle frag. 4 screw top jars 2 shoes	
41 DN 214						+																					aqua glass slip/glaze ware ceramics	

+ = Present

† = Present

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS														METAL			CERAMICS								MISC. ARTIFACTS	
	CYLINDRICAL BOTTLE														MISC.			MISC.									
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black	Embossed													Pontil	Window
															Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		
41 DN 216			+			+									+			+			+						foot pedal whet stone
41 DN 218						+				+	+							+									melted glass
41 DN 220						+																					glass (color not specified)
41 DN 221						+				+	+	+															unidentified china
						+																					unidentified china
						+						+															1 Mason jar base unidentified china frag.
41 DN 222						1															1						2 terracotta flower pots
41 DN 223			20			50					1				100			1 hinge 10 farm tools 10 misc. hardware 5 barbwire	30	10	25					4 household furnishings	
41 DN 224			50												8		+	barbwire 6 misc. hardware 12 horse tack 5 farm tools								numerous ABM bottles 10 toys 6 shoes	
																											+ = Present

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS														METAL			CERAMICS								MISC. ARTIFACTS					
	CYLINDRICAL BOTTLE														Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		MISC.				
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Appl'd Neck	Clear	Blue	Brown	Green	Purple	White	Black	Embossed														Pontil			
																													Window		
41 DN 225	3		3	3		3									+	+	barbwire 6 farm tools 1 cartridge	4											5 ABM bottles 5 pipes		
41 DN 226															+	+	door lock parts door knobs hinges	+	+												
41 DN 227	+		+	+		+									+	+	barbwire farm tools misc. hard- ware construction tools			+	+								household .furnishings toys storage items		
41 DN 228	+		+	+		+	+				+				+	+	fork barbwire	+		+							blue glazed crocery with window pane design greenish-buff crocery terracotta		molded glass bowl frag. logs Mason jar frag.		
41 DN 229																			+		+										
41 DN 230								+											+	+		+									
t = Present																															

TABLE A4-2 (CONT'D)

TABL NUMBER	GLASS													METAL			CERAMICS							MISC. ARTIFACTS			
	CYLINDRICAL BOTTLE													Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer		Sponge		
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black													Embossed	Pontil	Window
41 DW 231	25						25																			5 handpainted 3 terracotta	2 green glass insulators 1 pressed glass 1 screw top jar
41 DW 233							5	1	1	1	5	3						2	16							1 handpainted floral 1 embossed	
41 DW 234																1		1	5								

+ = Present

+ = Present

TABLE A4-2 (CONT'D)

TABLE NUMBER	GLASS													METAL			CERAMICS							MISC. ARTIFACTS			
	CYLINDRICAL BOTTLE													Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer		Sponge	MISC.	
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Appl'd Neck	Clear	Blue	Brown	Green	Purple	White	Black														Embossed	Pontil	Window
41 CO 10														3	10	1 spike 4 hinges 12 farm machinery 8 farm tools 4 horse tack 10 misc. hardware 2 barbwire	18										250 planks and beams 65 roofing materials 16 shoes 4 storage items 8 household furnishings
41 CO 12	16	3	3	3	1	18					10	24			3	1	1 buckle 8 hardware	24	16	6					3 tile	3 shell buttons 1 shoe 10 melted glass	
41 CO 15	1	1	1			10								20	1	2 farm tools 2 barbwire 6 misc. frag. 3 tin cans	5	3						1 decalcomania	10 planks and beams 5 roofing materials 2 shoes 1 bed frag.		
41 CO 16	7	3	3	1	1	10								15	150	1 door lock 1 hinge 1 roll barbwire 1 construction tool 2 farm tools	5	50						butter churn	100 planks household grinding wheel frag. 1 storage item 1 roofing material		

+ = Present

+ = Present

	GLASS									METAL	CERAMICS																			
TARL NUMBER	CYLINDRICAL BOTTLE									MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge	MISC.	MISC. ARTIFACTS										
41 CO 21	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black	Embossed	Pontil	Window	Wire Natl	Cut Natl	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		1 floral transfer printed	100 planks and beams 5 roofing materials 2 shoes
41 CO 22				1		2			1		5	10				100	100		2 hinges stove pipe 1 roll barb-wire	50	2							65 slip/glaze	1 button 2 iris plants 2 glass marbles 2 rainbow glass	
41 CO 25	12	4	10		20						15					30	1	2 misc. frag. 1 utensil	50	75	10						10 slip/glaze			
41 CO 27	5		1		5						5	1				15		1 roll barb-wire 1 roll hay baling wire 15 misc. frag.												
41 CO 30					2										3			3 tubular pipes 15 hardware 1 roll barb-wire	100	2						3 slip/glaze	25 planks 25 roofing materials 5 household furnishings			

+ = Present

A4-31

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS													METAL			CERAMICS							MISC. ARTIFACTS			
	CYLINDRICAL BOTTLE													Window	Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged		Blue Transfer	Sponge	
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black														Embossed	Pontil
41 CO 31	1										4					18	1	1 hinge farm tool 3 tubular pipes 8 hardware 4 barwire		3	5					1 tile	2 logs 45 planks
41 CO 32																+		2 lock frag. 4 door knobs 4 hinges 1 head board									planks and beams roofing material
41 CO 33																		3 door knobs 1 farm tool 1 roll barb- wire 6 misc. frag.									32 logs roofing material 3 household furnishings
41 CO 36															+	+		2 hinges misc. frag.	1	+	+						logs planks and beams roofing material field stone burnt boards burnt glass

4 = Present

$$t = \text{Pr}(t:n)$$

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS												METAL			CERAMICS								MISC. ARTIFACTS							
	CYLINDRICAL BOTTLE												Window	Wire Nail	Cut Nail	MISC.	Crocery	Brick	Platin White	Lined	Banded	Blue Feather Edged	Blue Transfer		Sponge	MISC.					
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White															Black	Embossed	Pontil		
41 CO 37																	200		2 hinges misc. wire window weight barrel hoops 1953 license plate	20	100									9 porcelain frag.	100 planks
41 CO 38																	42		1 lock frag. 1 door knob 1 hinge 2 misc. hardware 3 barbwire 1 headboard 6 tin sheet frag.		12										12 logs 24 planks and beams
41 CO 39							36	12			1						48		2 spikes 3 lock frag. 10 hinges 1 pitch fork 2 rake heads 4 pipe frag. 60 misc. hardware 12 barbwire 8 milk cans	12	64	20								14 tile	48 planks and beams 60 roofing materials 2 shoes 10 storage items 7 chairs 4 Texas license plates: 1953, 1958, 1967, & 1968
+ = Present																															

+ = Present

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS													METAL		CERAMICS							MISC. ARTIFACTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	CYLINDRICAL BOTTLE													Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged		Blue Transfer	Sponge	MISC.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
41 CO 40	1								9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

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TABLE A4-2 (CONT'D)

GLASS															METAL			CERAMICS									
TARL NUMBER	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge	MISC.	MISC. ARTIFACTS		
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White															
	Black	Embossed	Pontil	Window																							
41 CO 51														+	15 tin sheets 1 hinge 1 barwire										30 logs 50 planks and beams		
41 CO 55	100	10		100	10	5	200				150				100 misc. frag. 5 stove frag.	200	100	100		40							
41 CO 58				100			500				10	30			6 farm tools tubular pipe hardware	20	20	200		3					15 logs 30 planks 1 button 1 shoe heel		
41 CO 59	3											1		10	1 file 1 utensil handle		6								2 logs 10 planks 3 roofing materials		
41 CO 61	3			3										2	1 barwire 4 misc. frag.	1	100								30 planks 1 couch		
41 CO 62	50	3				25						5		7	2 horse shoes 1 stove burner cover 1 stove part	5	10	25							14 planks 1 laid on lip bottle		
41 CO 63						1					1			15	50 barwire	1	75								20 planks		
+ = Present																											

+ = Present

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS													METAL			CERAMICS								MISC. ARTIFACTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	CYLINDRICAL BOTTLE													Window	Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer		Sponge	MISC.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black															Embossed	Pontil																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS															METAL			CERAMICS							MISC. ARTIFACTS			
	CYLINDRICAL BOTTLE															Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer		Sponge	MISC.	
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black	Embossed	Pontil														Window
41 CO 81			4			3									25	970		28 tin roofing sheets 1 lock frag. 2 door knobs 1 hinge 1 toy steering wheel 1 misc. frag.	3	8	5							1 slip/glaze	330 planks
41 CO 82			3			10									60	999		50 tin roofing sheets 2 lock frag. 2 door knobs 6 hinges 200 m barbwire 1 windmill pipe 1960 Texas license plate	35	100	10								10 logs 800 planks 1000 cedar shingles 10 complete ABM bottles 1 clear glass insulator
41 CO 83			2												9	999 999		1 lock frag. 2 door knobs 2 hinges 2 misc. strips											130 logs 500 planks 2 rubber shoes 1 couch 1 table 1 side table 1 cabinet
+ = Present																													

+ = Present

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS												METAL			CERAMICS							MISC. ARTIFACTS																			
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer		Sponge																		
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White													Black	Embossed	Pontil	Window														
41 CO 84			1		1										7	40	2 spikes 2 Texas license plates: 1934 & 1940 1 bedspring	4																			2 porcelain	15 planks 1 pill bottle				
41 CO 87			1	5												4	120	40 tin sheets misc. frag. 3 door locks and knobs 113 m barbwire 3 tin cans 6 hinges 1 horse shoe 1 Texas license plate: 1954	5	50	8																				55 planks 1 shoe sole 1 marble 1 trap 1 medicine bottle	
41 CO 88					1		7											14 misc. frag.	28	2	15	2																		1 hand painted	1 shoe heel 2 household furnishings	
41 CO 92								2												1		3																			2 6 slip/glaze	grey slate

1 = Present

t = Present

TABLE A4-2 (CONT'D)

TABL NUMBER	GLASS												METAL		CERAMICS							MISC. ARTIFACTS								
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged		Blue Transfer	Sponge	MISC.					
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White														Black	Embossed	Pontil	Window	
41 CO 96		1				1	12		4	3	2	2	2	6			1 plow blade 1 key 8 misc. frag.	10	3	1									2 roofing materials	
41 CO 98	4					2											1 spike 15 misc. hardware 1 barbwire 6 misc. frag.	4	12											
41 CO 101	5	1														100	14 hinges 1 barrel hoop	75											500 planks	
41 CO 103														150					30											
41 CO 104																999	1 pot									1 porcelain				500 planks 1 Mason jar 1 clear glass floral frag.
41 CO 105			1				15	3								+	1 pitch fork 2 door locks 1 shovel 1 door knob	3	2							2 green transfer bottles				3 soft drink bottles 7 misc. bottles
+ = Present																														

+ = Present

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS												METAL			CERAMICS								MISC. ARTIFACTS				
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		MISC.			
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White																
																										Black	Embossed	Pontil	Window
41 CO 108			40			20							12	2400		3 lock frag. 2 door knobs 12 hinges tin roofing 3 misc. hardware 20 misc. frag.	20	150	60							5 slip/glaze	500 planks 3 shoes 5 pipe frag. 5 household furnishings	
41 CO 109			1		4						1			7		1 misc. hardware 2 misc. frag.	18		15							1 hand painted floral 1 slip/glaze		
41 CO 112																4 barbwire 2 large storage cans	1											
41 CO 113																8 misc. frag.	2	111	1							2 porcelain		
41 CO 114	1		1		3						1							9										
41 CO 115	10				25						7					1 buckle	10	2								20 porcelain		
41 CO 116	3				75										100	4	2 hinges 100 couch springs 1 gas can 7 pails	23									1 glass stopper 14 bottles 1 electric insulator	

1 = Present

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS													METAL			CERAMICS							MISC. ARTIFACTS									
	CYLINDRICAL BOTTLE													Window	Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged		Blue Transfer	Sponge	MISC.						
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black															Embossed	Pontil				
41 CO 117						5				1							48		1 hinge 6 misc. frag. 150 m barbwire 2 tubular pipes	10	50	25											8 planks 8 roofing materials 1 purple glass vase 1 wagon hub
41 CO 118															50	6000	3	3 lock frag. 2 door knobs 42 hinges 1 carriage bolt		1												275 logs 275 planks 100 roofing materials 1 electric insulator 150 misc. modern debris 3 bottles	
41 CO 119															100	20		3 carriage bolts		12												1 shoe frag. 1 battery	
41 CO 120																6000		11 hinges 300 misc. hardware 1 large barrel hoop 1 tricycle 1 gas heater														130 logs 150 planks 1000 roofing materials	
																																	+ - Present

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TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS												METAL			CERAMICS								MISC. ARTIFACTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crochery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		MISC.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White														Black	Embossed	Pontil	Window																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS												METAL		CERAMICS							MISC. ARTIFACTS			
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged		Blue Transfer	Sponge	
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White													
																									Black	Embossed	Pontil	Window
41 CO 130	35		12		7	300					45		10	18	8 misc. hardware 6 barbwire 12 misc. frag. 2 buckets	45	75	12				24			10 logs 50 planks 35 roofing materials 1 button 12 shoe soles 2 pipe frag. 12 bottles: embossed with "Federal Law Prohibits..."
41 CO 131	7					9											4	8							1 embossed 1 porcelain
41 CO 132	3		1			1	16	2			15		1		1 horse shoe 2 tin cans 1 lead frag. 10 misc. frag. 3 tools	5	45	45			2				
41 CO 133			3			1		5	1	6	1				6 hardware 1 hinged container 18 misc. frag. 1 farm tool	25		20						4 hand painted 15 slip/glaze	
41 CO 134																		1							
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TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS															METAL			CERAMICS								MISC. ARTIFACTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	CYLINDRICAL BOTTLE															Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		MISC.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black	Embossed	Pontil														Window																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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TARL NUMBER	GLASS												METAL		CERAMICS							MISC. ARTIFACTS			
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged		Blue Transfer	Sponge	MISC.
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White														Black	Embossed	Pontil
41 GS 39						36	12								36	3	1 door knob 1 hinge 2 farm machines 1 farm tool stove pipe 4 wire frag.	45							2 logs 4 tubular pipes 40 planks 1 glass transformer 6 roofing materials 60 planks 3 pipes assorted clothing 2 planks
41 GS 40	2											3				12	5 misc. hardware 4 barwire	48							1 hand painted floral 15 slip/glaze
41 GS 41						1									1	1 hinge		1 20							
41 GS 42						3									4	2 hinges 4 tubular pipes 5 misc. hardware	12							16 planks shoe sole	
41 GS 44	16					8	12	2										8 1 47						7 green transfer 1 button	

+ = Present

A4-45

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS													METAL		CERAMICS							MISC. ARTIFACTS				
	CYLINDRICAL BOTTLE													Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged		Blue Transfer	Sponge	MISC.	
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black														Embossed	Pontil	Window
41 GS 45	2					2											2 farm machines 8 misc. hardware 5 barbwire 1 head of a hoe	35								1 porcelain	16 planks 6 roofing materials 6 shoes 3 pipe frag. assorted clothing 6 toys
41 GS 46						5									8	1	10 misc. hardware 4 barbwire	50	4						5 tile	2 logs 10 planks 8 roofing materials 5 shoes	
41 GS 47												12					2 tubular pipes 7 misc. frag.	22	13	20	1	17	2		1 hand painted floral 1 porcelain figurine 1 tile	polished granite frag.	
41 GS 49						4									36	3	2 hinges 10 farm machines 1 farm tool 5 misc. hardware 2 barbwire	18							100 planks 60 roofing materials 2 shoes 6 pipe frag. 2 storage items		

4 = Present

[illegible]

A4-47

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS												METAL			CERAMICS							MISC. ARTIFACTS	
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crocery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer		Sponge
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White												
41 GS 54						3																	2 decalomania 6 terracotta	
41 GS 55	1			1		5					1			5									2 tile	
41 GS 56														12									4 planks 1 storage item	
41 GS 57							1		1		3			8									4 planks 1 medicine bottle	
41 GS 58		1				30	20	10	25	10				15									2 hand painted floral 1 slip/glaze frag. 5 embossed	3 planks 1 purple plate frag. 1 medicine bottle
41 GS 59	8						6				3												2 tiles	3 logs 10 planks
41 GS 60						10	1	8	20					3									4 embossed 16 tiles	
41 GS 61	10					75																	1 leather strap with buckle	

TABLE A4-2 (CONT'D)

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TABLE A4-2 (CONT'D)

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A4-51

TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS												METAL			CERAMICS								MISC. ARTIFACTS					
	CYLINDRICAL BOTTLE												Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer	Sponge		MISC.				
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White														Black	Embossed	Pontil	Window
41 GS 89				2		10	2	1					1		15	2 tubular pipe frag. 1 enameled plate 7 misc. frag. 3 tin cans 3 misc. hardware 75 m barbwire			15	50	30							2 slip/glaze 1 embossed	1 shell button
41 GS 91		2	2			15	2	5	3		12			1			1 horse shoe 7 misc. frag.				20	35						2 embossed 1 terracotta	2 laid on lip bottles 1 medicine bottle
41 GS 93						10			4	3	2									2		20	1	1	2	1		2 hand painted floral 1 smoking pipe frag.	
41 GS 95															6		2 barbwire 1 windmill top				1	10							3 planks
41 GS 98	50			1											15		2 hinges 7 misc. hardware				30	40			1	1	20		1 button

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TABLE A4-2 (CONT'D)

TARL NUMBER	GLASS														METAL		CERAMICS								MISC. ARTIFACTS		
	CYLINDRICAL BOTTLE														Wire Nail	Cut Nail	MISC.	Crockery	Brick	Plain White	Lined	Banded	Blue Feather Edged	Blue Transfer		Sponge	MISC.
	Other Color	Bust-Off Grind	Snap Case	ABM	Semi-ABM	Applied Neck	Clear	Blue	Brown	Green	Purple	White	Black	Embossed														Pontil	Window
41 GS 99						50			100	100					10	2	3 horse tack 55 misc. frag. 1 car spring	15	2	10					1	100 slip/glaze	
41 GS 100														1			2 misc. frag. 7 misc. hardware 3 barbwire	3	3	1							
41 GS 101																		1	6								

+ = Present

+ = Present

APPENDIX 5

**PREHISTORIC AND HISTORIC
SITE EVALUATIONS AND RECOMMENDATIONS**

Table A5-1.
Prehistoric site recommendations

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41DN79	Medium	Late Archaic and Late Neo-American macroband base camp; possible proto-historic activity(?); possible postholes in sterile deposit; most of site with exception of posthole destroyed by plowing; possibly functionally related to sites 41DN80, 81, and 101.	Nominate to National Register; excavate*
41DN80	None	Late Archaic and Late Neo-American microband camp; all of site apparently destroyed by plowing.	No further work*
41DN81	High	Late Archaic macroband base camp with some Late Neo-American material; high artifact density; moderate depth; good research potential.	Nominate to National Register; excavate*
41DN82	None	Late Neo-American musselling station; totally destroyed by plowing; no depth.	No further work*
41DN84	None	Late Archaic hunting camp; no depth; destroyed by plowing.	No further work*
41DN85	High	Late Archaic hunting camp; depth but no features found; limited artifact sample; undisturbed condition may not be duplicated elsewhere with sites of this type.	Nominate to National Register; excavate*
41DN87	None	Late Archaic seasonal camp; eroded and destroyed; no research potential.	No further work*
41DN89	None	Undated lithic procurement site; few artifacts; surface only.	No further work*
41DN96	None	One surface artifact on historic site.	No further work*
41DN98	None	Undated lithic procurement site; surface only; few artifacts.	No further work*
41DN99	High	Early Neo-American, Late Neo-American, possibly Late Archaic seasonal microband camp; depth and intact stratigraphy; high artifact density; very high research potential.	Nominate to National Register; surface strip and excavate*
41DN101	High	Late Archaic musselling base camp; single component site with depth and good preservation and high artifact density.	Nominate to National Register; excavate*
41DN102	High	Base camp: Middle Archaic, Late Archaic, Early Neo-American, Late Neo-American; some stratified deposits, burials, features, good preservation; high artifact density; good research potential.	Nominate to National Register; excavate*
41DN103	High	Late Archaic musselling base camp; in situ hearths; single component site; good possibility for faunal preservation; good research.	Nominate to National Register; backhoe, and excavate*
41DN112	High	Early and Late Neo-American musselling base camp; in situ features; living surface; undisturbed; stratified; good research potential.	Nominate to National Register; excavate*
41DN114	None	Late Archaic and Early Neo-American lithic procurement site; no preserved depth; eroded artifacts; small sample.	No further work*

Table A5-1. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41DN115	None	Late Archaic and Early Neo-American seasonal camp; eroded surface, no depth; small sample.	No further work*
41DN148	Low	Late Archaic seasonal camp; few artifacts; low research potential; plowed and disturbed.	Test
41DN149	Low to Medium	Early and Late Neo-American hunting camp; plowed field; low research potential; moderate amount of artifacts.	Test
41DN150	Low to Medium	Late Neo-American musselling base camp; low artifact density, some ceramics, numerous mussell shell; site terraced and partially destroyed at least; low research potential.	Test
41DN152	None	Late Archaic seasonal camp; moderate amount of artifacts; eroded at least partially; similar to 41DN115; low research potential.	No further work
41DN156	None	Early Neo-American seasonal camp; few artifacts; partially eroded; low research potential; similar to 41DN115 and 152.	No further work
41DN159	Medium	Undated seasonal base camp; large surface artifact sample; partially eroded pasture; potential for clarifying upper Elm Fork occupation.	Test
41DN160	None	Undated lithic procurement site; partially eroded; moderate sample size; limited research potential.	No further work
41DN161	None	Undated lithic procurement site; partially eroded; moderate sample size; limited research potential.	No further work
41DN162	None	Undated lithic procurement site; moderate sample size; partially eroded and in road; limited research potential.	No further work
41DN163	None	Undated lithic procurement site; moderate sample size; partially eroded; limited research potential.	No further work
41DN169	Medium	Undated hunting station; few artifacts on surface; undisturbed pasture; possible depth; some research potential.	Test
41DN173	Medium to High	Early and Late Neo-American seasonal camp; burials reported; good potential for clarifying central Isle du Bois occupation; partially deflated.	Test
41DN175	Low	Undated musselling base camp; moderate artifact sample; eroded and plowed; preservation unlikely.	Test
41DN178	Low	Late Archaic lithic workshop; moderate artifact sample; uneroded but plowed; depth unlikely.	Test
41DN180	None	Undated hunting station; few surface artifacts; partially eroded; no apparent depth.	No further work
41DN187	High	Undated base camp; high surface density; partially plowed; good research potential for part of 41DN102 settlement system.	Test
41DN188	High	Late Neo-American base camp; very high artifact density; partially plowed; good research potential for clarifying Late Neo-American settlement along Isle du Bois.	Test

Table A5-1. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41DN197	None	Late Archaic and Early Neo-American musselling camp; few artifacts noted, but high density recorded by SMU; no evidence of any depth or preservation.	No further work*
41DN199	None	Late Archaic musselling camp; few artifacts noted; flakes in eroded gulley; no depth; no buried horizon.	No further work*
41DN201	None	One flake on historic site; no buried material.	No further work*
41DN17	High	Middle and Late Archaic, Early and Late Neo-American macroband base camp; large numbers of artifacts reported; burials reported; buried deposits, partially destroyed; possible mounds and ceremonial activity; high research potential.	Test and mitigate
41DN206	None	One flake next to abandoned bridge.	No further work
41DN207	High	Late Neo-American lithic procurement site; high potential for clarifying Late Archaic lithic technology; large artifact sample; probably no depth.	Nominate to National Register; mitigate by collecting
41DN208	High	Late Archaic lithic procurement site; high potential for clarifying Late Archaic lithic technology; large artifact sample; probably no depth.	Nominate to National Register; mitigate by collecting.
41DN210	Medium	Late Neo-American seasonal camp; moderate sample size; partially deflated but some depth possible; burials reported on nearby site.	Test
41DN211	None	Late Archaic and Early Neo-American lithic procurement site; moderate sample size; partially eroded; probably no depth; limited research potential duplicated by 41DN207 and 208.	No further work
41DN217	None	Late Archaic and Late Neo-American seasonal microband camp; low artifact density; partially eroded, but still containing buried artifact material; good potential for clarifying Late Archaic adaptation in southern most portion of project area, but research potential believed duplicated by 41DN99.	No further work*
41DN219	Low	Undated lithic procurement site; low artifact density; no depth; similar to surface workshop site 41DN89.	No further work*
41CO11	Medium	Late Archaic seasonal camp; moderate sample size; partially plowed; depth uncertain; good research potential.	Test
41CO14	Low	Undated lithic workshop; small sample; partially plowed; depth unlikely.	Test
41CO17	Medium	Early Neo-American seasonal base camp; moderate artifact sample; good research potential, but eroded.	Test
41CO18	Medium to High	Early Neo-American seasonal base camp; moderate artifact sample; partially disturbed but possible depth; good research potential.	Test
41CO19	High	Late Archaic seasonal camp; few artifacts; apparently undisturbed; good possibility for buried deposits; good research potential.	Test

Table A5-1. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41CO20	High	Middle and Late Archaic, Late Neo-American, hunting station; possible post 1000 B.C. date; possibly functionally unique; necessary to clarify Middle Archaic settlement.	Test
41CO23	Medium	Late Archaic hunting station; sparse artifacts; partially disturbed but possibility of buried deposits, some research potential.	Test
41CO24	Low to Medium	Undated hunting camp; sparse artifact sample; partially disturbed but some depth possible; limited research potential.	Test
41CO26	Low to Medium	Late Archaic hunting station; sparse artifact sample; partially eroded, some depth possible; limited research potential.	Test
41CO28	Medium	Late Archaic seasonal camp; low to moderate surface density; partially disturbed pasture; possible depth; some research potential.	Test
41CO29	High	Late Archaic seasonal base camp; large artifact surface sample; marginally eroded, but large areas of potentially buried material; good research potential.	Test
41CO35	High	Late Archaic seasonal camp; limited artifact sample; pasture with material in animal burrows; buried material likely; some research potential.	Test
41CO45	High	Late Archaic and Early Neo-American seasonal camp; sparse surface sample; artifacts from eroded area, but possibly buried deposits beyond it; high potential for clarifying settlement on Indian Creek.	Test
41CO47	None	Middle and Late Archaic hunting camp; sparse artifact scatter around standing house; almost certainly disturbed.	No further work
41CO48	Low to Medium	Undated lithic procurement site; partially eroded slope; low surface density; limited research potential; high chert proportion; possibly buried deposits.	Test
41CO49	Low	Undated seasonal camp; low artifact density; later historic component; partially disturbed.	No further work
41CO50	Medium	Undated microband hunting camp; partially eroded and partially in plowed field; high artifact density; possibly some buried deposits.	Test
41CO52	Medium	Middle and Late Archaic hunting station; low artifact density; partially eroded but good likelihood of some buried material. Potential for clarifying Middle Archaic settlement.	Test
41CO53	Low to Medium	Undated lithic procurement site; low artifact density; partially eroded; possibility for some buried material but low.	Test
41CO54	Low	Undated microband seasonal camp; low artifact density; partially deflated; similar to 41DN115 found to have no depth.	Test

Table A5-1. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41CO55	High	Late Archaic seasonal microband camp; high artifact density; with tools; partially disturbed by later historic component; good possibility for buried deposits; good research potential.	Test
41CO56	High	Middle Archaic hunting camp; moderate artifact density; material found in animal burrows, indicating buried deposits possible; could bear on Archaic/Neo-American transition.	Test
41CO57	Medium	Late Archaic to Early Neo-American hunting camp; moderate artifact density; partially eroded, but some buried deposits possible; could bear on Archaic/Neo-American transition.	Test
41CO60	Low	Undated lithic procurement site; low artifact density; partially disturbed by recent activity; location similar to other surface lithic workshops; existence of buried material unlikely.	No further work
41CO67	Medium	Undated macroband camp; moderate artifact density; partially disturbed; material in animal burrows; potential for clarifying middle Isle du Bois settlement pattern; possibility of buried deposits.	Test
41CO70	High	Undated seasonal microband camp; moderate artifact density; some bone; largely undisturbed pasture; material all found in animal burrows suggesting existence of buried deposits as at 41DN85. Potential for clarifying settlement and subsistence along Indian Creek.	Test
41CO71	High	Undated macroband base camp; moderate to high artifact density; large amount of material reported by land-owner; large amount of disturbance and destruction reported in center of terrace; very good possibility for preserved buried deposits around the edges. Important for potentially clarifying central Isle du Bois settlement pattern.	Test
41CO72	Medium	Late Archaic, Early and Late Neo-American hunting camp; moderate artifact density; partially deflated; but some buried material possible; previous material reported by land-owner.	Test
41CO73	Low	Late Archaic hunting camp; low artifact density; area eroded and disturbed by historic activity; buried undisturbed deposits unlikely; site type duplicated elsewhere (41DN85).	No further work
41CO74	Low	Undated microband seasonal camp; low artifact density; general area heavily eroded with little indication of any degree of topsoil depth; site felt to be destroyed.	No further work
41CO76	Medium	Undated lithic procurement site; moderate artifact density; undisturbed and uneroded; good possibility of buried material; potential to clarify lithic procurement in northern project area.	Test
41CO79	Low to Medium	Undated seasonal microband camp; low artifact density; material brought up by animal burrows; this suggests some depth; but only few burrows contained artifacts, suggesting low density; however, this is only site potentially able to clarify settlement on Walnut Branch.	Test

Table A5-1. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41CO85	Medium	Undated microband seasonal camp; low artifact density; largely undisturbed pasture; no buried material near surface, but flood plain deposition may disguise features as at 41DN103; potential for clarifying settlement on upper Elm Fork.	Test
41CO89	Low	Undated possible lithic procurement site; very low artifact density; at least partially eroded; similar to surface site 41DN89; no depth expected.	No further work
41CO90	Low	Undated lithic procurement site; low artifact density; terrace edge situation similar to surface sites 41DN89 and 41DN98; no depth expected.	No further work
41CO91	Low to Medium	Undated microband hunting camp; low to moderate artifact density; minimal disturbance; possibility of preserved buried material.	Test
41CO92	Medium	Undated microband seasonal camp; moderate artifact density; most of artifacts deflated, but large amount of terrace not eroded; high likelihood of preserved material on uneroded terrace.	Test
41CO94	High	Undated macroband base camp; moderately high artifact density; partial disturbance by road cut; material largely present in animal burrows suggesting buried material as for 41DN85; important for clarifying settlement pattern on upper Wolf Creek.	Test
41CO95	High	Late Archaic, Early and Late Neo-American macroband base camp; very large artifact sample on surface; partially eroded on eastern margin along access road, but large preserved terrace area to west with high likelihood for buried deposits; potential for clarifying settlement and adaptation on upper Wolf Creek.	Test
41CO97	High	Early Neo-American hunting camp; high artifact density; largely undisturbed pasture; good possibility for buried material and for clarifying nature of settlement and technology.	Test
41CO99	Medium	Undated microband seasonal camp; moderate artifact density; terrace pasture dissected by several gullies; partial erosion but not total deflation; possibility of buried deposits; may help to clarify settlement on Wolf Creek.	Test
41CO100	Low to Medium	Undated hunting station; low artifact density; some material found in animal backdirt; situation similar to that of 41DN84, but this site not plowed; some possibility of preserved deposits; would help clarify settlement along middle Elm Fork.	Test
41CO106	Medium	Late Archaic hunting camp; low to moderate artifact density; partially disturbed by road cut, but majority of site area undisturbed; majority of material in animal burrows suggesting buried deposits; potential for clarifying settlement on upper Indian Creek.	Test
41CO123	None	Undated microband seasonal camp; very low artifact density; material associated with abandoned historic farmstead; high likelihood site has been destroyed by recent construction.	No further work

Table A5-1. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41CO124	Medium	Undated macroband base camp; moderate to high artifact density; undisturbed pasture slope; good likelihood of buried deposits on top of terrace on west side of site; potential for clarifying upper Wolf Creek settlement.	Test
41CO125	Medium	Late Archaic hunting camp; moderate artifact density; two areas of concentration; relatively undisturbed terrace top in pasture; some marginal erosion; good probability of preserved buried deposits; potential for clarifying Late Archaic utilization of upper Wolf Creek.	Test
41CO126	Medium to High	Undated macroband base camp; very high artifact density; site in partially disturbed pasture; surface scatter confined to west side of fenceline suggests previous plowing; but also suggests some undisturbed material left; potential for clarifying upper Wolf Creek settlement.	Test
41CO129	None	Single flake associated with historic abandoned farmstead; high likelihood of site destruction by recent activity.	No further work
41CO134	High	Late Neo-American musselling microband camp; high fire-cracked rock density; moderate artifact density; some evidence of marginal deflation/erosion by present flooding, but very good likelihood of buried material and features, as for 41DN103.	Test
41CO139	High	Undated musselling base camp; moderate fire-cracked rock and artifact density; site has been plowed but may extend into wooded area along river; good likelihood of buried material; location on mainstream of upper Elm Fork unique.	Test
41GS48	Medium	Undated macroband base camp; moderate artifact density; heavy disturbance due to plowing, with possibility of destruction; however, potential importance of site for settlement on Buck Creek requires further evaluation.	Test
41GS60	None	Late Archaic hunting station; low artifact density; material associated with larger historic site; paucity of material; likelihood of destruction by historic activity and no indication of depth suggests prehistoric site destroyed.	No further work
41GS62	Low	Undated microband hunting camp; moderate artifact density; disturbed and eroded terrace pasture; location on slight grade with majority of material at base of slope indicates site destroyed by modern erosion.	No further work
41GS63	None	Undated hunting station; moderate to low artifact density; small cluster of prehistoric material in dry slough on modern farmstead indicates derived context.	No further work
41GS64	High	Undated macroband base camp; moderate to high artifact density; terrace pasture with slight erosion on margin; indications good that some preserved material buried; this base camp has high potential for understanding settlement on Buck Creek.	Test
41GS65	High	Middle Archaic macroband base camp; moderate artifact density; uneroded terrace indicates good preservation of buried material; some overlap into plowed field, but bulk of site appears undisturbed; investigation of this site critical to understanding Middle Archaic in upper Isle du Bois area.	Test

Table A5-1. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41GS67	High	Undated microband seasonal camp; high artifact density; site partially disturbed by plowed field, but large amount appears to be in undisturbed terrace; with high potential for preserved buried deposits; bone preservation appears good; site has potential for clarifying settlement and subsistence on Buck Creek.	Test
41GS68	High	Late Archaic microband seasonal camp; moderate to high artifact density; on partially disturbed terrace slope; some erosion along dirt road; but site stretches over entire terrace slope; undisturbed nature of terrace indicates high likelihood for buried deposits; site would clarify Late Archaic settlement on Buck Creek.	Test
41GS69	Medium	Undated microband seasonal camp; high artifact density; site overlaps with historic material, and is partially eroded and deflated; some part of site appear well preserved however, and may have buried material.	Test
41GS71	Low to Medium	Undated seasonal microband camp; moderate to high artifact density; material spread out along dirt road on terrace top; good possibility for buried deposits beyond road.	Test
41GS72	High	Undated macroband base camp; high artifact density; on terrace top with disturbed margins; deflated dirt road showing high artifact density completely surrounds undisturbed terrace top; strong indication of buried material; site may be critical for understanding late settlement on Buck Creek.	Test
41GS73	Low to Medium	Late Archaic macroband base camp; moderate artifact density; most of site is former plowed field; while artifacts appear strung out along eroded channel or road; possibility of buried material beyond this, but not encouraging; nevertheless, potential importance of base camp site requires further examination.	Test
41GS81	Low	Undated hunting station; low artifact density; site at base of disturbed and eroded upland; apparent eroded nature and low density indicates site has no research potential and may be destroyed.	No further work
41GS85	High	Early Neo-American microband seasonal camp; moderate artifact density; some bone preservation; apparently only animal burrow disturbance present; site has high potential for clarifying nature of settlement on Range Creek; artifacts in animal burrows suggest some preserved buried material.	Test
41GS88	High	Early and Late Neo-American microband seasonal camp; low to moderate artifact density; undisturbed pasture and plowed field with some subsurface material present; good indications for preserved features; good potential for clarifying Neo-American settlements in Range Creek area.	Test
41GS90	None	Late Archaic macroband base camp; moderate to high density of artifacts; majority of site within plowed fields and thus disturbed; site in general outside limits of lake and will suffer no direct impact; site may already have suffered from plowing what it will from indirect impact.	No further work

Table A3-1. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41GS92	Low	Undated microband seasonal camp; low artifact density; site entirely within plowed and eroded field; sparse surface scatter indicates site almost completely gone.	No further work
41GS93	High	Middle Archaic macroband camp; very high artifact density; in terrace pasture with partial deflation; very high likelihood of preserved buried material beyond eroded areas; site has high potential for understanding Middle Archaic in Range Creek area.	Test
41GS94	Low	Undated collecting station; very low artifact density; site deflated and eroded due to overgrazing; no indications of any depth.	No further work
41GS96	Low	Undated hunting station; very low artifact density; pasture eroded and disturbed due to overgrazing; no indications of any depth.	No further work
41GS97	Low	Undated collecting station; low artifact density; eroded and deflated gravel terrace; no indications of any depth.	No further work
41GS102	Medium	Middle and Late Archaic hunting station; low artifact density; terrace next to floodplain; good location but material possibly in derived context; good possibility of buried in situ material upslope from surface finds.	Test

* Site already tested.

Table A5-2.
Historic archaeological site evaluation and recommendations

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41DN76	None	Moderate surface scatter of artifacts; eroded and apparently heavily disturbed with no depth; root cellar with little secondary trash; fair.	No further work*
41DN77	Needed for uniform distribution	Moderate surface scatter of artifacts; partially eroded some possible surface disturbance; root cellar with large amount of both primary and secondary trash; good.	Nominate to National Register; excavate*
41DN78	Needed for temporal refinement	Dense surface scatter in plowed field; almost entirely disturbed; some depth; no features; fair.	Nominate to National Register; collect*
41DN79	Needed for temporal refinement	Moderate surface scatter in plowed field largely largely disturbed; some depth, but mixed; fair.	Nominate to National Register; collect*
41DN81	None	Dense surface scatter of artifacts; almost completely disturbed by plowed field and eroded road; moderate amount of depth but almost completely mixed; no.	No further work*
41DN83	None	Standing recent structure, with sparse surface scatter; surface artifacts largely eroded; no buried deposits, no trace of earlier occupation; no.	No further work*
41DN84	None	Cluster of inhabited, recent standing structures; no surface artifact scatter; no trace of earlier occupation; no.	No further work*
41DN86	None	Moderate surface scatter of historic artifacts; presumably dump; no depth; no features; plowed and disturbed; no.	No further work*
41DN87	Needed for temporal control	Vaughantown (Cosner): cluster of five sparse to very dense surface scatters; three in plowed fields; two around modern buildings; depth generally 10-15 cm; no features; moderate to heavy disturbance; fair.	Nominate to National Register; collect*
41DN88	None	Moderately heavy surface scatter; partially eroded; dump site; unplowed but no great depth; no.	No further work*
41DN91	Needed for uniform distribution	Sparse surface scatter of artifacts; largely uneroded and unplowed; two wells, root cellar with large amount of trash fill, plus trash pit to southwest of house site; good.	Nominate to National Register; excavate*
41DN92	None	Moderate surface scatter of artifacts; one modern shed; one collapsed outbuilding; one root cellar full of modern bottles; partially eroded and heavily disturbed by modern activity; no trace of early occupation; poor.	No further work*
41DN94	None	Sparse historic artifact scatter; minimal disturbance; shallow depth outside root cellars; large amount of secondary trash within root cellar; structure drip line and depressions present; good.	No further work*
41DN95	None	Moderately dense surface scatter; minimally eroded, but no discernable depth; no features other than stone-lined well; poor.	No further work*
41DN96	None	Sparse surface scatter of artifacts; largely uneroded and undisturbed, but minimal depth; no features; poor.	No further work*
41DN97	Needed for both uniform distribution and regional comparison.	Sparse surface artifact scatter; largely uneroded; two root cellars; one of which contains moderate amount of trash; plus one shallow trash pit; partial stone foundation; good.	Nominate to National Register; excavate*

Table A3-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41DN100	None	Moderately dense surface scatter; no features; not eroded but no evidence of buried deposits; poor.	No further work*
41DN104	None	Very sparse surface scatter; largely destroyed by plowing; some subsurface material but not much; no features; no.	No further work*
41DN105	None	Moderately dense surface scatter; bulk of site disturbed by plowing; limited area with indications of depth; no features; probably disturbed by recent occupation; poor.	No further work*
41DN106	None	Standing structure complex with sparse artifact scatter; no subsurface features; shallow depth throughout area but nothing other than recent material; poor.	No further work*
41DN107	None	Standing structure complex with no discernable artifact scatter; several filled in root cellars - one with artifacts; small amount of material with depth behind house; good.	No further work*
41DN108	Needed for temporal control	Heavy scatter of artifacts; largely destroyed by plowed field; two collapsed structures; well; limited area with shallow depth to north of plowed field; fair.	Nominate to National Register; collect*
41DN109	None	Moderately dense surface scatter; site entirely within plowed field; no apparent depth; no subsurface features, no.	No further work*
41DN110	Needed for uniform distribution	Very sparse surface scatter; largely undisturbed pasture; stone house foundation; well; two depressions - one of which is root cellar full of secondary trash; scattered areas with subsurface artifacts outside features; good.	Nominate to National Register; excavate*
41DN111	Needed for uniform distribution	Moderately dense surface scatter of artifacts; uneroded pasture; slightly terraced; well, and trash-filled depression; about 1/2 site area shows shallow depth; good.	Nominate to National Register; excavate*
41DN112	None	Standing, occupied recent structure complex on earlier site; greatly disturbed by modern occupation; heavy surface scatter; no.	No further work*
41DN113	None	Standing, abandoned farm house; collapsed root cellar; heavy artifact scatter but largely in plowed field; area outside field undisturbed but no indications of depth outside field; artifacts appear relatively recent; limited.	No further work*
41DN116	Needed for uniform distribution and regional comparison	Moderate artifact scatter associated with structure drip-line outline and root cellar; uneroded pasture; little depth; deep root cellar with moderate amount of secondary trash fill; good.	Nominate to National Register; excavate*
41DN118	None	Large, standing structure complex; presently occupied; uneroded but disturbed; little evidence of earlier artifactual material or features; poor.	No further work
41DN119	None	Collapsed recent structure with outbuilding; some scattered recent artifacts; usual amount of depth; uneroded and undisturbed; poor.	No further work*
41DN120	Needed for uniform distribution	Moderate surface scatter; uneroded pasture; house mound; well; root cellar with assumed trash fill; good.	Test to determine National Register eligibility
41DN121	None	Cluster of standing outbuildings; no indications of archaeological deposits of any kind; no.	No further work

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41DN122	None	Cluster of modern, inhabited buildings; no indications of archaeological deposits of any kind; no.	No further work
41DN123	None	Cluster of modern, inhabited farm buildings; no indications of archaeological deposits of any kind; no.	No further work
41DN124	None	Cluster of modern inhabited farm buildings; site of 1900+ farmstead; apparently destroyed by more recent construction; no.	No further work
41DN125	None	Abandoned farmstead with collapsed outbuildings; 1900+ occupation site; small amount of subsurface artifacts, but no subsurface features; poor.	No further work*
41DN126	None	Abandoned school foundation; uneroded and relatively undisturbed; scarce historic material; very little depth; poor.	No further work*
41DN127	None	Well-cared for, recently vacant house and building cluster; no trace of archaeologically significant deposits or features; poor.	No further work
41DN128	None	Standing vacant structure and cluster of outbuildings; moderate artifact scatter; some areas of 25 cm depth; no observed root cellar depressions; fair.	No further work*
41DN129	None	Cluster of presently occupied farm buildings; 1900+ occupation in area, but no trace of archaeological deposits; no.	No further work*
41DN130	None	Farmhouse and cluster of abandoned outbuildings; partially eroded; dense surface scatter; dump of unknown age near corral; no subsurface archaeological features; good.	No further work
41DN131	None	Modern, occupied farm building cluster; dense and large artifact scatter, but largely recent in appearance; relatively uneroded; no subsurface archaeological features; fair.	No further work
41DN132	None	Cluster of abandoned farm buildings; relatively uneroded; sparse scatter of artifacts with some depth; nothing to indicate 1900+ occupation; no subsurface archaeological features; poor.	No further work*
41DN133	None	Standing, abandoned structures; no noticable surface scatter; relatively undisturbed; no trace of archaeological deposits; no.	No further work
41DN134	None	Cluster of standing structures; semi-occupied, partially eroded; no noticable surface scatter; no subsurface features; no.	No further work
41DN135	None	House foundation, brick piles, and collapsed root cellar probably full of trash; completely eroded; dense scatter of recent building debris; little domestic midden; good.	No further work
41DN136	None	Series of standing farm buildings; no noticable artifact scatter; no trace of 1900+ occupation; no.	No further work
41DN137	None	Single standing outbuilding; no associated artifacts or archaeological features; no.	No further work
41DN138	None	Standing and occupied farmstead cluster; moderately dense artifact scatter; undisturbed condition; no noticable subsurface features; likelihood of shallow depth; fair.	No further work
41DN139	None	Single frame outbuilding unassociated with any noticable archaeological deposits; no.	No further work*

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41DN140	None	Cluster of occupied buildings; no noticable archaeological remains; no.	No further work
41DN141	None	Cluster of occupied farm buildings; no data on archaeological features, but site occupied in 1917; fair.	No further work
41DN142	None	Cluster of standing outbuildings; collapsed building and root cellar depression, probably with trash; moderate artifact scatter; partially eroded; good.	No further work
41DN143	None	Cluster of standing buildings; moderate artifact scatter; un-eroded; no subsurface features; some depth to artifact distribution; fair.	No further work*
41DN144	None	Cluster of standing buildings; appears on 1917 map; no noted artifact scatter; uncertain.	No further work
41DN145	None	Cluster of currently occupied farm buildings; appears on 1917 map; no noticable artifact scatter; uncertain.	No further work
41DN146	None	Standing log building; sparse artifact scatter with almost no depth; partially eroded; no subsurface features; poor.	No further work*
41DN147	None	Moderately dense surface scatter; partially eroded and completely plowed; no subsurface features; no.	No further work
41DN150	None	Moderately dense historic scatter; partially eroded; completely terraced; no subsurface features; probably historic site destroyed; no.	No further work
41DN151	None	Cluster of standing buildings; currently occupied; no artifact scatter noted; undisturbed; no subsurface features; poor.	No further work
41DN153	None	Moderately dense surface scatter; largely destroyed by erosion and plowing; no subsurface features or structure remains; no.	No further work
41DN155	None	Moderate artifact scatter; uneroded pasture; root cellar depression and several smaller depressions - possible trash pits; moderate depth only likely; good.	No further work
41DN157	None	Cluster of abandoned farm buildings; uneroded pasture; no artifact scatter noted; no subsurface archaeological features noted; poor.	No further work
41DN164	None	Cluster of currently occupied farm buildings; partially disturbed; no artifact scatter noted; no subsurface features noted; poor.	No further work
41DN165	None	Occupied cluster of farm buildings; moderate amount of surface artifacts; partially disturbed; no indication of buried features or material; poor.	No further work
41DN166	Needed for regional comparison	Moderately dense surface scatter; undisturbed; two root cellar depressions probably full of trash; no structural remains; probably limited depth; good.	Test to determine National Register eligibility
41DN167	Needed for uniform distribution and regional comparison	Log structure associated with moderately dense surface scatter; undisturbed pasture; root cellar depression with probable trash; good.	Test to determine National Register eligibility

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41DN168	Needed for re- gional comparison	Sparse surface scatter; partially eroded pasture; root cellar depression with trash likely; fair.	Test to determine National Register eligibility
41DN170	None	Moderately sparse surface scatter; destroyed through plowing; no features; no.	No further work
41DN171	None	Cluster of abandoned farm buildings; no surface material observed; no subsurface features noted; undisturbed; fair.	No further work
41DN172	None	Cluster of occupied buildings; no artifact scatter noted; undisturbed; no subsurface features; fair.	No further work
41DN174	Needed for uniform distribution	Cluster of occupied buildings; undisturbed; few surface artifacts noted; no subsurface features noted; good informants; fair.	Test to determine National Register eligibility
41DN176	None	Cluster of standing structures; abandoned; recent debris on surface; collapsed root cellar with possible trash; partially eroded; good.	No further work
41DN177	None	Well; no artifacts or structural remains associated; similar isolated well elsewhere known to have produced no trash; no.	No further work
41DN179	None	Dense surface scatter; apparent dump site; partially eroded; no features; depth unlikely; no.	No further work
41DN181	Needed for regional comparison	Structure foundation with associated trash dump; partially eroded; assumed depth to dump; no features; good.	Test to determine National Register eligibility
41DN182	None	Moderate surface scatter along eroded road; no trace of subsurface features or structures; poor.	No further work
41DN183	Needed for regional comparison	Moderately dense artifact scatter; undisturbed pasture; four depressions with likely trash fill; good.	Test to determine National Register eligibility
41DN184	Needed for regional comparison	Dense artifact scatter; undisturbed pasture; structure foundation and root cellar depression; good.	Test to determine National Register eligibility
41DN185	Needed for regional comparison	Dense surface scatter; partially eroded; collapsed cellar with likely trash; possible trash pile; good.	Test to determine National Register eligibility
41DN186	Needed for regional comparison	Moderate artifact scatter; undisturbed; several structural foundations and root cellar; good.	Test to determine National Register eligibility
41DN189	None	Heavy artifact scatter; probable dump; partially eroded; no features; probably no depth; poor.	No further work
41DN190	None	Collapsed structures with dense artifact concentration; undisturbed; numerous features including several root cellar depressions; good.	Test to determine National Register eligibility
41DN191	None	Abandoned structures with large surface scatter of artifacts; undisturbed; no subsurface features noted; fair.	No further work
41DN192	None	Heavy surface scatter; partially eroded; no depth apparent; no features; assumed dump; no.	No further work

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41DN193	None	Cluster of presently occupied buildings; no surface artifacts noted; uneroded; no subsurface features noted; low.	No further work
41DN194	Needed for uniform distribution	Large surface scatter; uneroded pasture; possible trash pit depression; burned sheet midden; good.	Nominate to National Register; excavate*
41DN195	None	Sparse artifact scatter with many brick; partially eroded; no subsurface features; poor.	No further work*
41DN196	None	Standing structure surrounded by very sparse artifact scatter; undisturbed; root cellar with much trash; no depth elsewhere; fair.	No further work*
41DN198	Needed for regional comparison	Large cluster of abandoned buildings; moderately dense artifact scatter noted; no subsurface features; apparently large area with moderate depth; good.	Nominate to National Register; excavate*
41DN200	None	Moderate artifact scatter; scattered foundation stones; undisturbed; root cellar with artifact content; poor.	No further work*
41DN201	None	Moderately dense surface artifact scatter; partially deflated in present pasture; apparently no subsurface features and no depth to artifact distribution; no.	No further work*
41DN202	Needed for regional comparison	Moderate surface scatter; undisturbed; no subsurface features noted; buried layer apparently resulting from burned structure; many artifacts; good.	Nominate to National Register; excavate*
41DN17	None	Modern, occupied building cluster; no surface artifacts noted; possible filled-in root cellar depression; fair.	No further work
41DN204	None	Cluster of abandoned farm buildings; no artifact scatter noted; no subsurface features noted; poor.	No further work
41DN205	None	Dense artifact scatter; possible dump; heavy bulldozer disturbance; no features; possible depth beyond bulldozed area; poor.	No further work
41DN209	None	Isolated house foundation; no artifacts noted; no features noted; undisturbed; poor.	No further work
41DN212	Needed for regional potential	Heavy artifact scatter; partially eroded; possible root cellar with probable trash fill; probable shallow depth; good.	Test to determine National Register eligibility
41DN213	None	Collapsed structural remains; dense artifact scatter; undisturbed; no subsurface features noted; shallow depth likely; fair.	No further work
41DN214	None	Sparse artifact scatter; no structural or subsurface remains; partially eroded; poor.	No further work
41DN216	None	Cluster of standing structures; large artifact scatter; no subsurface features; undisturbed; poor.	No further work
41DN218	None	Large artifact scatter; partially eroded; no structural or subsurface remains; poor.	No further work
41DN220	None	Sparse artifact scatter with possible filled-in well; no subsurface features; poor.	No further work

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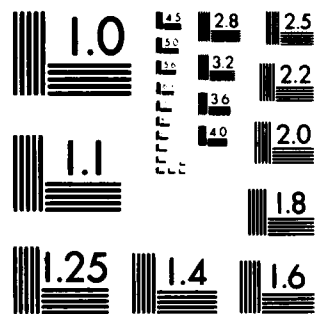
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Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41DN221	None	Moderate surface artifact scatter; close to modern outbuildings and possibly disturbed; no subsurface features noted; poor.	No further work
41DN222	None	Sparse surface scatter; possible root cellar depression or trash pit; presumed trash fill; no structural remains; fair.	No further work
41DN223	None	Cluster of abandoned structures; recent artifacts and no subsurface features noted; fair.	No further work*
41DN224	None	Cluster of abandoned structures; surface artifacts sparse and no subsurface features noted; poor.	No further work*
41DN225	None	Cluster of abandoned structures; cemetery; sparse recent surface artifacts; no subsurface features noted; poor.	No further work
41DN226	None	Cluster of abandoned structures; surface artifacts sparse; no subsurface features noted; poor.	No further work
41DN227	None	Currently occupied house and outbuildings; recent surface remains only; no subsurface features noted; poor.	No further work
41DN228	Needed for uniform distribution and regional comparison	Structure foundation with associated features; dense artifact scatter with wide range of material; high likelihood of subsurface features and midden; very good.	Test to determine National Register eligibility
41DN229	None	Currently occupied house with outbuildings; surface artifacts sparse; no subsurface features noted; poor.	No further work
41DN230	Needed for regional comparison	House mound and collapsed root cellar; wide artifact scatter; likelihood of subsurface features; good.	Test to determine National Register eligibility
41DN231	None	Sparse scatter of recent artifacts; poor.	No further work
41DN233	Needed for regional comparison	Sparse artifact scatter; possibility of subsurface features; reported location of early black community; fair.	Test to determine National Register eligibility
41DN234	None	Sparse artifact scatter; no subsurface features noted; poor.	No further work
41CO10	None	Empty, standing structure with adjacent outbuildings, well, privy and recent trash; sparse surface scatter of artifacts partially disturbed by grazing; poor.	No further work
41CO12	None	Moderate surface scatter of purple and clear glass and crockery heavily disturbed by plowing (in a wheat field); no.	No further work
41CO13	None	Stone-lined well presently being cleaned out for use; sparse to nonexistent artifact scatter due to cleaning; no.	No further work
41CO15	None	Standing barn and outbuilding with brick-lined well and depression - apparent root cellar; moderate surface scatter of artifacts of clear and other glass; minimally disturbed by grazing; good.	No further work
41CO16	None	Heavy artifact scatter; with structural foundations and well; partially disturbed; fair.	No further work

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41CO21	None	Standing church; still in use; associated with moderate artifact scatter; undisturbed condition; poor.	No further work
41CO22	None	Collapsed structure with sparse surface scatter; well and root cellar depression present; high likelihood of small amount of depth; good.	No further work
41CO25	None	Dense surface artifact scatter; possible collapsed root cellar; partially eroded pasture; good.	No further work
41CO27	None	Dense artifact scatter; brick concentration; two possible root cellars with assumed trash fill; stone structure foundation; good.	No further work
41CO30	None	Structure foundations and recent outbuildings; moderate surface scatter; no subsurface features; partially eroded; poor.	No further work
41CO31	Needed for uniform distribution	Moderate artifact scatter; windmill; possible house mound; stone foundation; partially eroded; no subsurface features; fair.	Test to determine National Register eligibility
41CO32	Needed for uniform distribution	Cluster of standing buildings; sparse surface scatter; root cellar depression with probable trash fill; undisturbed; good.	Test to determine National Register eligibility
41CO33	None	Small cluster of abandoned structures; sparse surface artifacts; no subsurface features; poor.	No further work
41CO34	None	House with associated outbuildings; no indications of any archaeological deposits; no.	No further work
41CO36	None	Structure foundation with associated outbuilding remains; sparse surface scatter; no subsurface features; partially eroded; poor.	No further work
41CO37	None	Structure foundations and outbuilding; low density surface scatter; outhouse remains, but no other subsurface features; poor.	No further work
41CO38	None	Standing and destroyed structures; sparse artifact scatter; partially eroded; no subsurface features; poor.	No further work
41CO39	Needed for uniform distribution	Large scatter of standing buildings; partially eroded; dense artifact scatter; collapsed root cellar with probable trash fill; good.	Test to determine National Register eligibility
41CO40	None	Moderate artifact scatter; well, house mound, and root cellar depression; undisturbed; good.	No further work
41CO41	Needed for uniform distribution	Moderate artifact scatter; partially eroded; outbuilding and two cellar depressions - one earth, one cement; good.	Test to determine National Register eligibility
41CO42	Needed for uniform distribution	Standing structure with collapsed outbuilding; undisturbed; moderately sparse surface scatter; well; stone cellar; fair.	Test to determine National Register eligibility
41CO43	None	Structure foundation and surrounding outbuildings; sparse artifact scatter; no subsurface features; poor.	No further work

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41CO44	None	Structural foundations; sparse artifact scatter; uneroded; possible trash pit depression; fair.	No further work
41CO46	Needed for uniform distribution	Moderate to large artifact scatter; two apparent root cellar depressions with probable trash fill; uneroded; good.	Test to determine National Register eligibility
41CO47	None	Cluster of currently occupied structures; moderate surface scatter; no subsurface features; partially disturbed; poor.	No further work
41CO49	Needed for uniform distribution	Moderate to large artifact scatter; partially eroded pasture; one possible root cellar; one possible trash pit; good.	Test to determine National Register eligibility
41CO51	None	Collapsed log structure; no indications of archaeological deposits; uneroded; poor.	No further work
41CO55	None	Dense artifact scatter; partially eroded; no trace of structural foundations or subsurface features; poor.	No further work
41CO58	None	Extremely dense surface scatter; partially eroded pasture; apparent root cellar depression; fair.	No further work
41CO59	None	Sparse artifact scatter; partially eroded; house foundation and well; no subsurface features; fair.	No further work
41CO61	None	Sparse artifact scatter; partially eroded; structure foundation; well; collapsed root cellar depression with high likelihood of trash; good.	No further work
41CO62	None	Dense artifact scatter; partially eroded; two wells and small depression; possible trash pit; fair.	No further work
41CO63	Needed for uniform distribution	Moderate artifact scatter; undisturbed; house mound and apparent cellar depression; good.	Test to determine National Register eligibility
41CO64	None	Isolated well; no indication of any archaeological deposits; poor.	No further work
41CO65	None	Dense artifact scatter; uneroded; house mound and foundation; two depressions with possible trash fill; good.	No further work
41CO66	None	Well and root cellar; uneroded; of surface artifacts; fair.	No further work
41CO68	Needed for uniform distribution	Dense artifact scatter; uneroded; house mound; wells; root cellar with possible trash; good.	Test to determine National Register eligibility
41CO73	None	Sparse surface scatter; partially eroded; several depressions of unknown function; fair.	No further work
41CO77	None	Dense artifact scatter; entirely eroded; several structure foundations; no trace of subsurface features; poor.	No further work
41CO78	None	Large cluster of standing buildings; undisturbed; no artifact scatter observed; poor.	No further work

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41CO80	None	Dense artifact scatter; completely eroded; house foundation and collapsed outbuilding; two depressions with likely trash; fair.	No further work
41CO81	None	Moderate surface scatter; partially eroded; standing structure; filled-in well; depression with probable trash; good.	No further work
41CO82	None	Moderate to sparse surface scatter; partially eroded; cluster of standing buildings; poor.	No further work
41CO83	None	Sparse surface scatter; uneroded; cluster of standing buildings; no subsurface features; poor.	No further work
41CO84	None	Moderate artifact scatter; uneroded; house mound and well; no trace of subsurface features; poor.	No further work
41CO87	Needed for uniform distribution	Dense artifact scatter; completely eroded; structural foundations; well; root cellar depression; good.	Test to determine National Register eligibility
41CO88	None	Moderate artifact scatter; wholly eroded; dump; no subsurface features; no.	No further work
41CO92	None	Sparse surface scatter; undisturbed; no subsurface features or structural remains; poor.	No further work
41CO96	None	Large surface scatter; undisturbed; house foundation; three depressions with likely trash fill; well; good.	No further work
41CO98	None	Moderately large artifact scatter; partially eroded; apparent dump site; no subsurface features; no.	No further work
41CO101	Needed for uniform distribution	Sparse surface scatter; partially eroded; two depressions possibly filled with trash; good.	Test to determine National Register eligibility
41CO103	None	Sparse surface material; partially eroded; cluster of standing and collapsed structures; no subsurface features; poor.	No further work
41CO104	None	Sparse surface scatter; undisturbed; standing structure; cemetery; root cellar depression; good.	No further work
41CO105	Needed for uniform distribution	Cluster of standing buildings; moderate artifact scatter; partially eroded; root cellar depression; good.	Test to determine National Register eligibility
41CO108	None	Dense artifact scatter; completely eroded; cluster of abandoned buildings; root cellar depression; several trash piles; fair.	No further work
41CO109	None	Moderate surface scatter; partially eroded; about half in plowed field and probably destroyed; no subsurface features; poor.	No further work
41CO110	None	Standing structure cluster; no notice of any artifacts on surface; undisturbed; poor.	No further work
41CO111	None	Cluster of standing buildings; partially eroded; no notice of any artifact scatters; poor.	No further work

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41CO112	None	Very sparse surface scatter; partially eroded; partially destroyed cabin; no indication of subsurface features; poor.	No further work
41CO113	Needed for regional comparison	Very sparse surface scatter; partially disturbed; stone foundation; well; depression probably filled with trash; good.	Test to determine National Register eligibility
41CO114	Needed for uniform distribution and regional comparison	Moderate surface scatter; partially disturbed; stone foundation root cellar depression; good.	Test to determine National Register eligibility
41CO115	Needed for uniform distribution	Large surface scatter; undisturbed; standing structure; no subsurface features; fair.	Test to determine National Register eligibility
41CO116	None	Large surface scatter; undisturbed; dump; no surface features; no.	No further work
41CO117	Needed for uniform distribution and regional comparison	Dense surface scatter; partially disturbed; scatter of trash piles; structure foundations; and depression of root cellar; good.	Test to determine National Register eligibility
41CO118	None	Moderate surface scatter; uneroded; cluster of log buildings; no trace of archaeological deposits; poor.	No further work
41CO119	None	Sparse artifact scatter; undisturbed; structure foundation and intact root cellar; poor.	No further work
41CO120	None	Sparse surface scatter; uneroded; large cluster of standing buildings; no subsurface remains; poor.	No further work
41CO121	Needed for uniform distribution	Moderately dense surface scatter; partially disturbed, cluster of standing structures; no subsurface features; poor.	Test to determine National Register eligibility
41CO122	None	Moderate surface scatter; undisturbed; collapsed structure and brick scatter; poor.	No further work
41CO123	Needed for uniform distribution	Large surface scatter; undisturbed; house foundation, well; root cellar; brick scatter; good.	Test to determine National Register eligibility
41CO126	None	Very sparse surface scatter; partially disturbed; no subsurface features; no.	No further work
41CO127	None	Sparse surface scatter; undisturbed; no subsurface features; poor.	No further work
41CO128	Needed for uniform distribution	Moderate surface scatter; undisturbed; house foundations; two root cellars; well; good.	Test to determine National Register eligibility
41CO129	Needed for uniform distribution	Dense artifact scatter; partially disturbed; structure foundations and collapsed buildings; root cellar; good.	Test to determine National Register eligibility

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41CO130	None	Dense artifact scatter; partially disturbed; cluster of buildings; three root cellar depressions; good.	No further work
41CO131	Needed for uniform distribution	Moderate surface scatter; undisturbed; root cellar with presumed trash fill; good.	Test to determine National Register eligibility
41CO132	None	Dense artifact scatter; partially disturbed; no subsurface features; fair.	No further work
41CO133	None	Dense artifact scatter; partially disturbed; two concentrations; no trace of subsurface features; poor.	No further work
41CO136	Needed for uniform distribution	Standing structure undisturbed; no artifactual material; silting up of grist mill channel; fair.	Test to determine National Register eligibility
41CO137	None	Historic dump with possible small bridge remains; artifact density high but site appears to be outside lake limits; poor.	No further work
41GS39	None	Recent house foundation; associated with standing outbuilding; associated with moderate surface scatter; possible well; poor.	No further work
41GS40	None	Standing structure complex with moderate, partially disturbed artifact scatter; stone-lined well; poor.	No further work
41GS41	None	Heavily disturbed by plowed field; sparse artifact scatter wholly eroded; well in good condition and nearby slight depression possibly a root cellar; fair.	No further work
41GS42	Needed for regional comparison	Standing outbuildings with possible root cellar; moderate scatter of artifacts; partially eroded; brick wall; good.	Test to determine National Register eligibility
41GS43	None	Standing structure complex currently inhabited with no discernable artifact scatter; no.	No further work
41GS44	None	High density of artifacts heavily disturbed by plowed field; moderate erosion with no depth; poor.	No further work
41GS45	None	Deserted standing structure with outbuildings; moderately dense surface scatter partially disturbed by erosion; fair.	No further work
41GS46	None	Extensive standing structures with outbuildings currently uninhabited; dense artifact scatter partially disturbed by grazing and erosion; fair.	No further work
41GS47	None	Heavy scatter of artifacts largely disturbed by plowed field and fenceline; poor.	No further work
41GS49	None	Deserted standing structure with adjacent collapsed structure; no discernable artifact scatter; partially eroded; no.	No further work
41GS50	None	Two brick-lined wells with sparse surface scatter; partially eroded and heavily drained area; poor.	No further work
41GS51	None	Standing structure complex with outbuilding; heavy scatter of artifacts with negligible disturbance; possible well; fair.	No further work

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41GS52	None	Collapsed structure with moderate surface scatter of artifacts; largely uneroded; brick-lined well with adjacent depression; possibly a root cellar; good.	No further work
41GS53	None	Stone-lined well with adjacent sparse surface scatter of artifacts; partially eroded with possible house foundation; fair.	No further work
41GS54	None	Moderately dense surface scatter partially disturbed by grazing; no depth; poor.	No further work
41GS55	None	Moderate surface scatter; moderately eroded by heavy grazing beside stockpond; poor.	No further work
41GS56	None	Standing outbuilding with adjacent corral; sparse surface scatter partially eroded by grazing in this pasture; poor.	No further work
41GS57	Needed for regional comparison	Standing barn with outbuildings, corral, brick well and root cellar; moderate density of surface artifacts partially eroded by grazing, road cuts, and stream drainage; good.	Test to determine National Register eligibility
41GS58	None	Very dense artifact scatter and possible root cellar; highly disturbed by bulldozing and tracking over entire area; poor.	No further work
41GS59	Needed for regional comparison	House mound, root cellar and brick-lined well with moderate surface scatter; minimally disturbed by grazing; good.	Test to determine National Register eligibility
41GS60	None	Moderately heavy surface scatter of artifacts with no associated structures; partially disturbed by grazing; fair.	No further work
41GS61	None	Sparse artifact scatter with no depth; heavily disturbed by drainage and erosion; poor.	No further work
41GS63	None	Standing structure with corral, outbuildings, and bricked well; moderate surface scatter almost totally undisturbed by drainage and grazing in contiguous pasture; fair.	No further work
41GS65	None	Sparse surface scatter including green glass with no adjacent structures or habitations; undisturbed; poor.	No further work
41GS68	None	Minimal surface scatter including clear glass, heavily disturbed by plowing; poor.	No further work
41GS69	Needed for regional comparison	Moderate surface scatter including purple, blue and clear glass, partially deflated elevation with slight disturbance; possible house site and depression adjacent; possible root cellar; good.	Test to determine National Register eligibility
41GS70	None	Heavy surface scatter including bottles, china, green and clear glass; partially disturbed by drainage; fair.	No further work
41GS71	None	Sparse surface scatter including brown and black bottles and glass located in road cut; therefore, partially disturbed with minimal erosion; poor.	No further work
41GS72	None	Moderate surface scatter including china, metal, clear, and black glass and brick following contour of road cut; minimal erosion out of road cut; some subsurface artifacts; fair.	No further work

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
41GS74	None	Collapsed surface structure with corral and collapsed outbuildings; stone-lined well, storm cellar and windmill; moderate surface scatter of artifacts with partial erosion possibly due to grazing; good.	No further work
41GS75	None	Unusual standing structure with adjacent outbuildings and storm cellar; moderate surface scatter of metal, brick, glass; heavily disturbed by plowing completely around the house itself; poor.	No further work
41GS76	None	Moderate surface scatter of colored glass, china and crockery; partially disturbed; possible well adjacent to it; poor.	No further work
41GS77	None	Deep, rock-lined well filled in with leaf rubble and debris; no scatter of artifacts; partial erosion due to plowing; no.	No further work
41GS79	None	Standing structure with stone piers, adjacent corral and storm cellar; brick lined well; moderate erosion due to road cuts and drainage; moderate surface scatter of colored glass, crockery and metal surround the storm cellar; fair.	No further work
41GS80	Needed for uniform distribution	Collapsed structure with adjacent structure foundation, brick-lined well, storm cellar, brick mound and corral; sparse surface collection of artifacts, partially eroded by pasturing; good.	Test to determine National Register eligibility
41GS82	None	Well with closely located, but not adjacent root cellar; no other discernable structure locations; sparse, scattered artifacts of crockery, brick and glass bottles surround well area; partially disturbed by erosion and grazing; good.	No further work
41GS83	Needed for uniform distribution and regional comparison	Stone pier (standing) associated with house mound, root cellar, and well; sparse scattering of artifacts of brick, china; and glass partially disturbed by grazing and creek drainage; good.	Test to determine National Register eligibility
41GS84	None	Partially standing structure with adjacent outbuilding, trash pile and two wells; moderate artifact scatter; partially disturbed; fair.	No further work
41GS87	None	Brick and fieldstone-lined well; sparse surface scatter of artifacts; heavily disturbed apparently by recent bulldozing; poor.	No further work
41GS89	Needed for uniform distribution	Depression - possible root cellar; possible well; sparse scatter of artifacts including brick, colored glass bottles, and pipe indicative of a well; more than partially disturbed by earth work on adjacent dirt roads; good.	Test to determine National Register eligibility
41GS91	None	Sparse artifact scatter of green bottle necks, china, and metal; greatly disturbed by plowing (in a wheat field); no.	No further work
41GS95	Needed for regional comparison	Partially standing windmill with adjacent stone-piered root cellar; moderate surface scatter of artifacts; partially eroded by drainage; fair.	Test to determine National Register eligibility
41GS98	None	House foundation with chimney; moderate surface scatter of purple and green glass, crockery; and china; partially disturbed by grazing (this is now pasture); fair.	No further work
41GS99	Needed for regional comparison	Depressed area; possible root cellar; moderate surface scatter of purple and green glass, china, crockery, bottles, and metal; partially disturbed by erosion; good.	Test to determine National Register eligibility

Table A5-2. (cont.)

Site (TARL Number)	Potential Research Significance	Description	Recommendations
4IGS100	Needed for regional comparison	Root cellar depression adjacent to raised earth square possibly a house mound; moderate surface scatter of clear, green, and bottle glass; partially disturbed by tree root system; good.	Test to determine National Register eligibility
4IGS101	None	Brick-lined well and root cellar depression surrounded by sparse artifact scatter of brick, metal fragments, and crockery bits; eroded and disturbed by grazing; good.	No further work
4IGS103	None	Brick-lined well with adjacent root cellar depression; no artifact scatter, but area heavily disturbed by stock tank and grazing; good.	No further work

* Site already tested.

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